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ABSTRACT

This bibliography provides a comprehensive view of the use of media in a large distance education institution--the Open University. Both externally published and internal papers are presented in sections, which are further divided into sub-sections according to related themes. There is considerable overlap among papers, and many abstracts are reproduced in more than one place. Each entry contains the paper number (corresponding to the index of papers in the back), author, title, citation (if applicable), and abstract. Section headings include broadcasting; multimedia and course design, including radio, television, video, and text; computing and communications technology, including interactive video, cable, and satellite; and evaluation, including student usage and research methodology. In addition to approximately 305 cited references, the publication describes 18 Student Research Centre reports, 5 Teaching and Consultancy Centre reports, 20 Centre for Information Technology in Education reports, 11 publications of the Programme on Learner Use of the Media (PLUM), and 4 audiovisual packs are cited. It is noted that, since the bibliography contains abstracts of papers going back to the inception of the University through to the present date, it constitutes not only a resource for those involved in course design and decision making with regard to media-mix and policy, but a unique insight into the development of the use of media at the Open University. (DB)

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Programme on Learner Use of Media

The Programme on Learner Use of Media has been established to develop an understanding of students' use of and learning from combinations of educational media (both current and anticipated) in distance education. Our specific aims are:

> To maintain and improve the quality of teaching and learning being carried out through combinations of media in the University.
>
> To ensure that the University maintains an appropriate balance between media with respect to teaching effectiveness, learners' strategies for media use, the logistics of use and relative costs.
>
> To develop a knowledge base to support research and policy making in respect of media use.

Members of PLUM are:

Diana Laurillard	(3311)
Beryl Crooks	(2606)
Adrian Kirkwood	(2401)
Josie Taylor	(5965)

Secretary: Hansa Solanki (2909)

Programme on Learner Use of Media
Paper No. 1

PROGRAMME ON LEARNER USE OF MEDIA ANNOTATED BIBLIOGRAPHY

Josie Taylor

Abstract

The bibliography provides a comprehensive view of the use of media in a large distance education institution - the Open University. Contained within it are abstracts of papers going back to the inception of the University right through to the present date. Some of the papers have been published externally, some are internal reports and some are copies of communications between individuals within the OU where the issue being debated is thought to be of some significance to the use of media in courses. It therefore consitutes not only an important resource for those involved in course design and decision making with regard to media-mix, and policy, but also provides a unique insight into the development of the use of media at the Open University.

(Internal paper 1991)

INTRODUCTION

Welcome to the annotated bibliography of the Programme on Learner Use of Media in the Institute of Educational Technology. We hope you will find what you are looking for (and perhaps more!) and the following notes should help you navigate through the material.

The bibliography is available for browsing as a suite of Word4 files for Macintosh computers. You can access the files through the IET server, or, if you prefer, you can obtain the bibliography on disc from Hansa Solanki (2909). The on-line version of the bibliography contains a **README** file appropriate for that medium. Readers of this hard copy version will note that some of the abbreviations and conventions used are ones which conform to computer usage (e.g. abbreviations used for the names of different sections of the bibliography). However, these are not particularly obtrusive, and we hope that they do not interfere with reading the bibliography in hard-copy format.

Organisation of the Sections

The entries in the bibliography are presented as sections (each section corresponding to a Word4 file on the computer). Each section has a particular emphasis designated by its title. Within each section you will find a list of sub-sections which further sub-divide the papers collected there. There is considerable overlap amongst papers, and many abstracts are reproduced in more than one place. For instance a paper called **'Broadcasting Issues Related to Television and Radio'** would be found in the sections headed **'Broadcasting'**, **'Television'** and **'Radio & Audio'**. This degree of redundancy was thought worthwhile in the interests of making browsing easier. But because of it, we do not recommend that you try to read the whole bibliography from beginning to end in one go!

Because broadcasting has played such a fundamental role in Open University courses, the **A-Broadcasting** section is the largest, and we have tried to give as broad a picture of broadcasting policy and research in the media research area as possible. Some readers may find this section alone sufficient for their purposes. However, the sections with a **B** prefix relate more specifically to particular media. **B-Multi-media and Course Design** contains papers which relate to media-mix within courses and which are the most general. The related sections with a **B plus numeral** prefix focus on one particular medium (e.g. television, or video). These chapters are divided into sub-sections which deal with (i) that medium's characteristics, (ii) research into issues concerning that medium, and (iii) how that medium is used both in practice by course teams and by students.

The sections prefixed with a **C** are those which broadly relate to new technologies. The sections with a **D** prefix focus on research issues - in particular research pertaining to evaluation and student usage.

So, in summary, sections prefixed with **B** are 'media' files, those prefixed with **C** are new technology, and those with a **D** are 'evaluation/usage'.
After each entry in the bibliography you will find in square brackets the names of any other sections in which this entry occurs.

Below is a list of all the sections available.

FULL NAME OF SECTION	ABBREVIATED NAME
1-READ ME (this section)	)THESE FILES PROVIDE BASIC
2-CONTENTS	)INFORMATION FOR READERS
3-INDEX	)
A: Broadcasting	[A-Broadcasting]
B: Multi-media and Course Design	[B-Multi-media&CD]
B1: Radio and Audio	[B1-Radio&Audio]
B2: Television	[B2-TV]
B3: Video	[B3-Video]
B4: Text	[B4-Text]
C: Computers and Communications Technology	[C-Comp/CommsTech]
C1: Interactive Video	[C1-InteractiveVideo]
C2: Cable and Satellite	[C2-Cable/Satellite]
C3: CYCLOPS	[C3-Cyclops]
D1: Evaluation	[D1-Evaluation]
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D3: Research Methodology	[D3-ResearchMethod]
D4: Research Plans of AVMRG/PLUM	[D4-Plans]
D5: Other Institutions	[D5-OtherInstitutions]

A list of the sub-sections within each section is contained in **2-CONTENTS**. Please refer to this section after reading this one.

Each individual entry in the bibliography has the following format:

Paper number Author(s) Title

(Additional Information)

Text of abstract inserted here.....

The bibliography contains papers from a number of sources, and this is reflected in the prefix to their numbers.

Prefix	Source
No prefix	Audio-visual Media Research Group IET (now defunct)
PLUM	Programme on Learner Use of Media, IET
SRC	Student Research Centre, IET
TCC	Teaching and Consultancy Centre, IET
CITE	Centre for Information Technology in Education, IET

As the AVMRG is now defunct, that list will not change. However, the PLUM publication list will be continue to expand, and we will also add relevant publications from SRC, CITE and TCC. By referring to the INDEX, readers will be able to keep abreast of new developments.

This bibliography has been compiled with the hope that all our colleagues will be able to access information relating to educational media material. As this system is a pilot scheme, we would be glad to hear any comments you may have (relating to successes as well as failures!), and please tell us about any errors or omissions we may have made. Feedback to:

Josie Taylor, PLUM, IET, Geoffrey Crowther 204 (ext. 5965).

Thank you.

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(4) Broadcast Surveys and Annual Surveys of New Courses

(5) The Open University/BBC relationship

The Broadcasting file is the largest and contains the widest spread of information. Readers may like to scan some of the sections here and then peruse other files which deal with some issues in more detail. The cross-referencing at the end of each abstract will indicate which file to consult.

(1) BROADCASTING POLICY:

(1a) Allocation of Resources

5 **BATES, A.W.** **Who Needs Broadcasting?**

(Internal memo 1971 5 pages)

A paper which proposes the need for clear, academic criteria by which the Open University should allocate its limited broadcast resources.

11 BATES, A.W. **Broadcast Allocation Policy and Transmission**

(Internal memo 1972 10 pages)

A paper in which alternative strategies for alleviating the predicted pressures upon transmission resources are discussed.

30 BATES, A.W. **What are we going to do about broadcasting?**

(Internal memo, 1974 5 pages)

This paper examines the problems related to such a scarce resource as broadcasting. In the context of a proposal that 100 credits be available to undergraduates in 1980, the author sets out five viable alternatives as to how broadcasting time might be used as well as eliminating three attractive but impractical solutions: cable television, more BBC transmission time, or a fourth educational channel. [Cable&Satellite]

31 BATES, A.W. **Suggested Criteria and Guidelines for the Allocation of Broadcasts**

(Internal memo 1974 8 pages)

This paper sets out 8 general principles of broadcast allocation, which have relevance to all courses, and outlines the criteria by which individual courses are judged to need broadcast time within the competitive system existing at the Open University. (This paper has now been updated: see paper 124.) [TV] [Radio&Audio]

124 BATES, A.W. **Appropriate Teaching Functions for Television, Radio and Audio-cassettes in Open University Courses**

(Internal memo for Broadcast Sub-committee 1979 3 pages)

This up-dates paper 31, adding a small number of new functions, and in particular separating different functions for radio and audio-cassettes. [TV] [Radio&Audio]

109 BATES, A.W. **A Proposal to Allocate Broadcast Resources in 'Blocks' to Faculties**

(Internal memo 1977 9 pages)

This paper assumes a weekly transmission facility of 85 television slots per year and presents 4 models of how in practice these might be distributed

amongst the Faculties by 1982. The basic recommendation is that each Faculty should receive a block allocation of transmission time and production resources, to be allocated to particular courses by the faculties themselves.

43 **BATES, A.W.** **The Future of Broadcasting at the Open University**

(Internal Paper 1975 14 pages + appendix)

This paper describes the situation surrounding the Open University's submission to the Annan Committee on the Future of Broadcasting for a large increase in BBC transmission time. It argues that present resources are justified on academic grounds and on student grounds. A discussion of the OU submission follows and of alternative strategies should its demands not be met; these might be the dropping of repeats, the reduction in number of broadcasts per course, or the use of alternative media.

192 **BROWN, D. H.** **The Treatment of Broadcast Bids from the Faculties of Educational Studies by the Broadcast and Audio-Visual Sub-Committee**

(Internal report, 1982, 14 pages)

This paper analyses the treatment of three bids for television production resources made by the Faculty of Educational Studies. It concludes that the treatment of these bids by the Broadcast and Audio-Visual Sub-committee was inconsistent and that discussions between the Faculty and the Sub-committee were needed if the bidding procedure was to function properly as an important stage in the course production process. [TV]

(1b) Use of Video vs Broadcast

228 **BROWN, S.** **Video-cassettes versus Broadcasts**

(*Teaching at a Distance*, No. 25, 1983)

Television is an expensive learning resource and it is becoming a scarce commodity in the Open University as more courses compete for a finite amount of transmission time. Whilst the potential importance of television in a distance teaching context is widely recognised among educators, Open University students appear to be less appreciative. At a time when the University is faced with significant cut-backs in expenditure, television needs to be made a more course-effective course component. This paper examines the educational and economic advantages of video-cassettes compared with broadcast television in Open University courses in the future. [TV] [Video]

165 BATES, A. W. **Should TD 342 distribute its TV programmes on video-cassette instead of broadcasting?**

(Internal memo, 1979 3 pages)

In response to a request from a course team, costs and a system of distribution, for transferring broadcasts to video-cassette are worked out, on the basis of students being issued with video-cassette machines on a rental basis, for home use. Costs are shown to be extremely high per student. [TV] [Video]

240a BATES, A. W. **Splitting Image: The Changing Role of Television in Education**

(*Times Educational Supplement*, April 1984)

In this article the author addresses the question: Do we need broadcasting now we have cassettes? In the context of educational television both in schools and in adult education, suggestions are offered as to how teachers can best use video-cassettes for teaching. The availability of video-cassettes has led to greater use of television in education, but such usage has clearly revealed the educational weaknesses of broadcast television. Programme makers need to consider production styles which exploit cassette characteristics in order to capitalise on this form of use. [Video]

SRC5 KIRKWOOD, A. **Access to Video Equipment for Study Purposes - Undergraduate Students in 1986**

(Findings from the Costs/Access survey 1986; internal report May 1987)

At the end of 1986 a survey of new and continuing undergraduate students was undertaken on the related issues of 'costs of studying and access to equipment for study purposes'. Questionnaires were sent to a sample of 2,400 students (1,200 students taking their first O.U. course and 1,200 continuing students). This report presents an analysis of students responses to the four questions on the questionnaire concerned with students' access to T.V. and video facilities for study purposes. Seventy-seven per cent of undergraduate students had access of some kind to video equipment for study purposes, 60% had access in their home. Eighty-four per cent of machines are of VHS format. Twenty-six per cent of students without home access indicated that they might be willing to rent or buy a video-cassette machine if the OU provided video material for course work. Some potentially important variations in patterns of access are revealed when the survey data is analysed in relation to demographic and other data. [Video]

SRC17 TOMPKINS, K. & CROOKS, B.

A Review of the Extent and Pattern of Use of Video-Cassettes in the Undergraduate Programme and the Continuing Education Area 1988

(Internal paper 1988)

This document is a review of the extent and pattern of use of video-cassettes in the Undergraduate Programme and the Continuing Education Area of the Open University in 1988. It is intended to provide background information for the current review of the University's policy on the role of broadcasting and audio-visual material. The first section of the report defines what is meant by video-cassette material. The following two sections present an analysis of the overall pattern of video-cassette use; the methods of distribution of video-cassette material, the conditions under which video-cassettes are used by students; the quantity of video-cassettes produced by different production centres and the total of hours of viewing material available by both broadcast and video-cassette for both the Undergraduate Programme and the Continuing Education Area. The last section consists of a summary of findings and a discussion of the comparision of video-cassette use in these two areas. Finally there are recommendations concerning the University's policy towards video-cassette production in the Undergraduate Programme. [Video] [StudentUsage]

SRC 26 CROOKS, B. & KIRKWOOD, A.

VCR Access and Television Viewing Rates - Undergraduate Students in 1988

(Internal report, 1989)

In November 1988 a survey described as the Access to New Technologies (ANTS) survey of undergraduate students was undertaken to gather information on student access to two new media - video-cassettes and the home computer - in order to help the development of University policy in the use of these media. This was the primary aim of the survey but the opportunity was taken to include a group of questions about television viewing by three means: broadcast transmission, home recording on video-cassette machines and use of the broadcast loan scheme. This report presents an analysis of student responses to the questions on access to video-cassette recorders and television viewing. [Video]

SRC36 KIRKWOOD, A.

Into the Video Age: Open University Television in the 1990's

(*Journal of Educational Television*, Vol 16, No. 2, 1990 pp 77-85)

Significant changes in the nature of Open University television productions will occur in the 1990s as a result of the high level of access to video

equipment among the University's students. A very large proportion of course programmes are already recorded off-air by students for subsequent viewing, but additional educational benefits can be achieved if programmes are designed from the outset to give learners greater opportunities to control and interact with the material. Although there remains the need to ensure that all students can gain access to the television material (either by transmission or direct mail of video-cassettes), courses will be able to design video format programmes to fulfil important educational functions that cannot be achieved by any other means in a distance teaching context. [Video]

P4 CROOKS, B. **The Potential of Non-Broadcast Television Technologies for Learning and the Implications for Educational Television Design and Research**

(Tel-Aviv Seminar on *ETV Broadcasting Research in the Nineties* sponsored by the European Broadcasting Union, Tel Aviv, Israel, March 1990 9 pages)

The teaching potential of video-cassettes and video-discs are reviewed, together with an indication when mass access is likely to rival that of broadcast television. Since the immediate challenge is presented by video-cassettes, the implications that the characteristics of this technology have for television design are explored. The changes to broadcast educational television that are likely to result from the impact of the video-cassette medium within the next decade are explored by means of a brief scenario. [Multi-media&CD] [Video] [InteractiveVideo]

(i) Broadcast and Video Access Backup Schemes

41 GALLAGHER, M. & MARSHALL, J. **Broadcasting and the Need for Replay Facilities at the Open University**

(*British Journal of Educational Technology* No. 3, Vol. 6, 1975)

This paper describes the project set up to investigate the demand and viability (both economic and operational) of installing video-cassette recording equipment at Open University Study Centres. The role of broadcasting as an integral component of the University's teaching system, it is argued, needs to be weighed against the heavy commitment of resources to such a scheme. Papers 35 and 40 [Video] also describe the project and the researchers' conclusions. [Video]

128 MARTIN, J. et al. **VCR Working Group: Final Report**

(Internal report to Planning Board) 1979 9 pages + appendices)

This is a report of an independent working group set up by Planning Board to re-evaluate the evidence for the need for a video replay scheme in study centres, as a back-up to off-air transmission. The report confirms the increasing imbalance between production and transmission, examines 51 possible solutions, but finally recommends a video replay scheme based on co-operative arrangements with other institutions, at an annual cost of approximately £150,000 per annum. The report contains detailed organisational and cost analyses for three different ways of organising a video replay service. [Video]

291 BATES, A. W. (et al.) **Recommendations for a New Broadcast Loan Scheme**

(Internal paper, 1989 BAVSC, 13 pages)

The BAVSC Working Group point out that the previous loan scheme was both needed, and cost-effective. The loan scheme was needed primarily to help guarantee delivery of essential course materials, and that this was a cost that in principle ought to be carried by the University and not the student. The proposals outlined in this report, nevertheless, halve the costs falling on central funds for the provision of this service. [Video]

P5 CROOKS, B. **Review of Re-Introduction of Broadcast Loan Scheme**

(BAVSC/30/10 1990 9 pages)

The Open University has operated a Broadcast Loan Scheme (formerly called the Video-cassette Loan Scheme) for about 10 years. In order to conduct a review of its operation and make recommendations for future policy, evidence concerning the access of various groups of students to television transmissions was considered. It was proposed that the new scheme be focussed on (a) remote students and (b) individual programmes. [Video]

P6 CROOKS, B. **Use of Video-cassettes: Issues of access, relative roles of broadcast and video-cassette programmes and raising awareness of new possibilities**

(BAVSC/32/2 1990 11 pages)

Background information was considered concerning: access of students to VCRs, the changing viewing, recording and study patterns of students,

existing video backup schemes, current use by Course Teams of television designed for use on video-cassettes in OU courses and the educational opportunities for design of television material intended for use with VCRs. Recommendations were made relating to the introduction of a Video Access Policy (that is, a group of courses where access to a TV and VCR will be assumed). [Video]

(1c) Radio

280 **BATES, A. W. (ed.)** **Final Report of the Radio Transmissions Working Group**

(Internal Paper for BAVSC, 1988)

The working group interpreted its terms of reference as follows: (a) to suggest appropriate roles for radio, in the multi-media context of the Open University, given the cost-effectiveness of audio-cassettes as a teaching medium; (b) to identify the times at which these radio programmes should be broadcast; (c) to recommend to BAVSC a realistic maximum level of radio production/transmission should an abundance of convenient times become available; (d) to identify ways of encouraging academic staff and students to make better use of radio and (e) to recommend to BAVSC steps that might be taken that would encourage BBC senior management to give a high profile to selected OU radio programmes in any future plans for an educational channel. [Radio&Audio]

(1d) Cable and Satellite

213 **BACSICH, P., BATES, A. W., BOYD-BARRETT, O. & STENHAM, R.** **The Implications for the Open University of Recent Cable and Satellite Developments**

(An internal discussion paper for presentation to Senate, 1983, 14 pages)

In this paper the authors raise major questions as to the ways in which the Open University might be affected by cable TV. They indicate the wide range of people and departments in the University that will be affected by such developments, discuss and detail the main issues, and set out a proposed strategy for dealing with those issues. [Cable & Satellite]

265 **BATES, A. W.** **Satellite Policy Issues for the Open University**

(Internal paper 1987 15 pages)

This discussion paper outlines a set of decisions which the Open University must make in relation to its role in satellite broadcasting, and provides arguments for and against each of the points raised. [Cable & Satellite]

286 BATES, A. W. **Satellite Developments in the Open University**

(Internal paper for BAVSC)

This report discusses the current and future situations with regard to the Open University's policy toward satellite broadcasting. [Cable & Satellite]

(1e) European Policy

268 BATES, A. W. **Development of Activities in Europe**

(text of a lecture delivered at the Residential Meeting of the Council of the Open University, 26 Sept 1987)

This paper outlines the need for the Open University to develop a policy for development into Europe and considers some of the potential problems of expanding undergraduate courses into European countries.

(2) BROADCASTING EVALUATION

6 BATES, A. W. **Evaluation of Broadcasting at the Open University**

(K. Austwick and N.D. Harris (eds.) Aspects of Educational Technology VI, London, Pitman 1973)

This paper argues the need for evaluation of broadcasting at the Open University because of the expense and scarcity of this resource and briefly describes the OU facilities available for such research. The discussion then centres on the practical and theoretical problems involved in this evaluation process. [ResearchMethod]

19 BATES, A. W. & MOSS, M. **Research into Open University Broadcasting 1971-72**

(Internal memo 1973)

A report which outlines the principal problem areas related to the use of broadcasting at the Open University identified during 1971-72 and which summarises the findings of a number of related research projects. [Plans]

20 BATES, A. W. **Guide to Feedback on Broadcasts**

(Internal memo 1973 34 pages)

A paper which describes the range of feedback resources available at the Open University, the useful information each method provides, its costs and relative advantages and disadvantages. [ResearchMethod]

25 **BATES, A.W., HAWKRIDGE, D., & HENDERSON, E.** **Evaluating the British Open University's Teaching**

(Educational Media Yearbook 1982, Colorado Libraries Unlimited)

One of the principal tasks of the British Open University's Institute of Educational Technology is to continuously evaluate the University's multi-media teaching, which started in 1971. Here we report critically on two aspects of the program: (1) evaluative studies of the television and radio broadcasts, and (2) evaluation of individual courses and their components during presentation. We describe something of the institute's procedures and the problems they engender, and discuss the kinds of findings they provide. Finally, we cover some successes and failures at the university when the time has come to implement the findings. [ResearchMethod]

64 **BATES, A.W.** **Broadcasting and Multi-media Teaching**

(In J. Tunstall (ed.) The Open University Opens, London: Routledge and Kegan Paul, 1973 14 pages)

This paper concentrates on two basic issues related to Open University broadcasting. It argues that broadcasting is economically justified, and is necessary on educational and social grounds at the Open University. It questions however whether the broadcasting component is used effectively due perhaps to a lack of integrated course design, a lack of knowledge about the adult learner, and operational constraints. [Multi-media&CD]

28 **BATES, A. W.** **Problems of Learning from Television at a Distance**

(Conference on *Frontiers in Education* London: Institute of Electrical Engineers, 1974 6 pages)

Television at the Open University is used in a planned way with other media such as correspondence texts. This paper discusses how research at the University is used to identify and suggest solutions to a number of problems related to its usage, and in particular how a study of the nature and function of broadcasts allows us to test assumptions about the way students react to them and to suggest possible ways of improving their value. [ResearchMethod] [StudentUsage] [TV]

42 GALLAGHER, M. **Broadcast Evaluation: What can it tell us that we don't know already?**

(Internal paper 1975 16 pages)

This paper describes the approach taken at the OU towards broadcast evaluation as one which attempts to provide a range of detailed information about a programme's overall reception. In particular it is argued that useful research in this area involves a study of the whole OU context into which a broadcast is set. [ResearchMethod]

52 BATES, A. W. & GALLAGHER, M. **The Development of Research into Broadcasting at the Open University**

(*British Journal of Educational Technology*, Vol. 7, No. 1, 1976)

This paper describes the history of research into broadcasting at the Open University since its inception - discussing for example the range of projects set up, the selection of methodology and the problems, both pragmatic and financial, which were met. In the conclusion it is pointed out that many of the original questions put forward for research and, more seriously, basic problems about learning from television have yet to be investigated. [ResearchMethod]

118 BROWN, D. H. **Developmentally Testing the Television Component**

(*Journal of Educational Television* Vol. 5, No 1, 1979 3 pages)

This paper is a summary of a follow-up study (Paper 89 [ResearchMethod]) which gauged the reactions of an Open University Course Team to the developmental testing of the broadcast element of their course. The particular problems encountered in modifying the television component are identified and the paper concludes by suggesting the conditions which appear to be necessary for the broadcast component of an Open University course to be fully developmentally tested, and if necessary, modified. [TV] [ResearchMethod]

235 HISLOP, D. W. & POWELL, N. **A Study of the UK as a Source of Broadcasting Technology**

(Paris: UNESCO, 1984 57 pages)

This study of the UK broadcasting technology transfer system provides a description of the characteristics and activities of each element in the technology transfer system, using examples of transfer where possible, and

discussing the pattern of their interactions, and the implications for the third world. [OtherInstitutions]

(3) SPECIFIC BROADCASTING ISSUES

(3a) Transmission Times

93 GRUNDIN, H. **The Effect of Transmission Times on Students' Use of OU Broadcasts**

(Internal paper 1978)

This paper analyses in some technical detail how viewing rates are affected by transmission time allocated to radio and television programmes. Factors such as the number of programmes transmitted on a course and variations in time-slot combinations are studied. The paper also looks at differences between faculty viewing and listening figures and offers some suggestions as to how viewing and listening rates should be interpreted. [StudentUsage] [TV] [Radio&Audio]

112 GRUNDIN, H. **On Broadcasting Times: A Study of Viewing and Listening Opportunities in 1978-79 and in the Future**

(Internal paper 1979)

This report presents the results of a survey carried out in 1978 to collect data on the times during which students are usually able to watch or listen to Open University broadcasts. An analysis is made of viewing and listening opportunities which suggests a trend for these to be decreasing for newly recruited students; also examined are the implications of future transmission time allocation for listening and viewing opportunity. [StudentUsage]

149a GRUNDIN, H. **Assessment of the BBC television times proposal in terms of viewing opportunities for 1982 transmissions**

(Internal paper, 1980)

This paper provides a brief analysis of viewing opportunities for students taken from the 1979 Broadcast Survey and an assessment for the likely impact on viewing of the proposed transmission times for 1982. [StudentUsage]

169 GRUNDIN, H. **Viewing Opportunity: A Discussion of the Concept, and of Variations Between Faculties in the Opportunity Values of Different Time Slots**

(Internal paper 1980)

This paper discusses some problems involved in refining 'viewing opportunity', and analyses differences between faculties in the suitability of various television time slots. It is pointed out that differences between faculties are affected by students' attitudes to broadcasts, and also by sex differences. [StudentUsage]

171 GRUNDIN, H. **Open University Broadcasting Times and their Impact on Students' Viewing/Listening**

(Internal report 1981)

This paper shows how the viewing/listening opportunities provided by available time slots set a limit for the actual viewing/listening figures that can be achieved, and also how the provision of repeats may have only a marginal effect on viewing/listening opportunity. [StudentUsage]

186 GRUNDIN, H. **Factors Influencing Viewing and Listening Rates Among OU Undergraduates**

(Internal paper 1982)

The paper presents results of correlations and regression analysis carried out on data from the 1979 and 1980 AV Media Surveys (a total of 108 courses). It is shown that television and radio differ in that viewing is more influenced by the opportunities offered (number of transmissions and times) than is listening. One consequence of this is that TV repeats are not, in themselves, important as long as the level of viewing opportunity is high. Various indices of successful use of broadcasts are studied and it is shown that each of these indices can be valuable depending on the circumstances: (i) viewing/listening rate; (ii) helpfulness rating; and (iii) a new 'audience-attraction' index. An appendix gives these indices for all 108 courses surveyed in 1979-80. [StudentUsage] [Radio&Audio] [TV] [ResearchMethod]

(3b) Setting Assignments on Broadcast Material

This topic is being further researched by the PLUM group in 1991. If you would like a progress report, please contact Diana Laurillard on 3311.

3 BATES, A. W. **Evaluation of Broadcasts and Student Assessment**

(Internal memo 1971)

This short memo aimed at course teams outlines a proposal for a scheme in which certain specific questions on the CMA form are set aside for testing understanding of the broadcast component of courses. The information

gathered in this way would be informative with regard to how successful broadcasts are, and if the questions counted towards assessment, then it may bring home to students the importance and relevance of broadcasts. (This scheme was not adopted as policy, although some individual course teams may have participated.)

14 **BATES, A. W.** **An Evaluation of the Effect of Basing an Assignment on Broadcast Material in a Multi-media Course**

(*Programmed Learning and Educational Technology*, Vol. 10, No. 4, 1973 18 pages + appendices)

Open University courses (except in Science) are generally designed so that students who cannot receive the broadcast component can nevertheless still gain course credits, through assessments, even if they do not see or listen to the broadcasts. This policy has unintentionally placed significant limitations on the way broadcasting can be used. To test the effect of changing this policy, one assignment was set based partly on broadcast material which did in fact count towards assessment in an Educational Studies course. Not surprisingly, students found the programmes linked with this unit the most useful of any in the three Educational Studies courses in 1972. More significant, however, were the difficulties that arose from the need to ensure that all the relevant materials reached the students in time and the reactions of students when put under pressure by assessment requirements to view and listen to broadcasts. The implications of the findings are discussed, both in terms of methods of evaluation and the design and assessment of multi-media courses. [StudentUsage]

164 **BATES, A. W.** **Should Assignments be Set on Broadcasting Components?**

(Internal memo 1975 4 pages)

In response to a request from the Exams and Assessment Committee, this paper provides factual information about student access to broadcasts, discusses policy issues involved, and puts forward recommendations (see also papers 14 and 66). [StudentUsage]

66 **KERN, L.** **Basing Assignments on Broadcasts**

(Internal paper to Exams and Assessment Committee, 1976)

This paper raises a number of difficulties which may arise and need attention where a Course Team chooses to use broadcasts for assessment purposes and suggests various appropriate courses of action. [StudentUsage]

78 KERN, L. **Student Feedback on Broadcast CMA Questions: An Interim Report**

(Internal memo to D204 Course Team 1977)

This brief report summarizes the results of discussions held with D204 (a course on Human Geography) students about their broadcasts and in particular about the use of CMA questions on broadcast material. The appendices are long and contain the transcripts of discussions held. The summary highlights a number of problems and suggests possible solutions to the Course Team. [StudentUsage]

(3c) Using Broadcast Material

4 BATES, A. W. **Use of Broadcasts in "parallel" to Correspondence Texts**

(Internal memo 1971 5 pages
Circulation: Senior Producers and IET)

This paper discusses the planning implications for course design where television and radio are to be used together with other components. It emphasises the need to integrate broadcasts into a course of study and suggests how this may be achieved even where direct links between programmes and the correspondence text are absent or slight. (This issue is further discussed in Paper 77 - section 3d in this file - in the light of a good deal more experience of different models of integration). [Multi-media&CD] [TV] [Radio&Audio]

17 BATES, A. W. **Problems of Broadcasting: A Guide to Tutors**

(Teaching by Correspondence in the Open University, Milton Keynes, 1973 16 pages)

This paper offers some general guidelines to Open University tutors on the use of broadcasts as a teaching medium. It discusses the functions of programmes (in particular those which present case-studies), student expectations of television, and some problems of visual evidence, and how the emotional impact of television may affect its educational aims. [StudentUsage] [Multi-media&CD]

33 RILEY, J. **Helping Course Teams with Broadcasts**

(Internal memo + appendices 1975)

This paper focuses on the impression that students are not using broadcasts as efficiently as possible, in particular that they do not treat programmes as they would texts, as needing serious concentration and effort, and that they do not integrate what they learn from broadcasts with their study of other parts of their courses. The paper presents three ideas which may go some way to resolve this problem: broadcast summaries, broadcast notes and special TV programmes which directly address the use of broadcasting in courses. [Text]

69 KERN, L. **Using Broadcast Notes in Distance Teaching**

(Internal paper 1976)

This paper argues that broadcast notes can play a valuable organisational role at the Open University in helping students to use their programmes more effectively. A number of suggestions are made as to content and layout, the particular emphasis being on the need for notes to include advice on preparation and re-inforcement activities as well as a brief record of programmes (see also the file on Text, especially Paper No. 70). [StudentUsage] [Text]

71 GALLAGHER, M. **How to Use Broadcasts: Briefing and Training of Students and Part-time Staff**

(Internal discussion paper 1976)

The purpose of this brief paper was to initiate discussion of possibilities for the provision of briefing and training to students and part-time staff in the use of broadcasts and broadcast-related material. It examines the need for such provision and makes some initial proposals as to how it might be made. [StudentUsage]

86 GALLAGHER, M. **Using Broadcasts in the Social Sciences**

(*Teaching at a Distance*, No. 10 1977)

This paper summarizes points of general consensus arising from a seminar on the use of broadcasting in the Social Science Faculty. The role of part-time staff in relation to broadcasts and perceptions of good and bad television formed major areas of discussion. [StudentUsage]

73 BERRIGAN, F. **Preliminary Notes on Student Use of Broadcasts**

(Internal paper 1977 4 pages)

This paper provides a very brief but clear outline of what is known of student use of broadcasting material, and ways in which utilization is affected by study schedules, assignments, broadcast notes, workload and viewing/listening times. The information is confined to general patterns of usage. [StudentUsage]

110 KERN, L. **Results of Student Report on TD342 Broadcasting Component: Television Programmes 1, 2 & 3 and Radio Programme 1**

(Internal paper 1979)

A short questionnaire was prepared as a speedy but reliable means of collecting basic information from students on TD342 broadcasts. The specific area of interest was utilisation - that is, how students were using the material, were they taking notes, recording sound etc? Among the problems raised were awkward transmission hours, lengthy programme notes, and the posing of CMA questions on broadcasts. [StudentUsage]

119 BROWN, D. H. **Helping Students to Learn Through Television and Radio**

(*Visual Education*, Sept. 1979 2 pages)

Several research projects have demonstrated that not all Open University students possess the skills necessary to make full use of the radio and television components of their courses. Partly as a result of this research evidence a decision was made to produce a package of materials to help students develop these skills. This paper is a report of the development of these materials by people from throughout the Open University, including Producers from the BBC/Open University Production Centre. [TV] [Radio&Audio] [StudentUsage]

AVPACK1 VARIOUS AUTHORS **Learning from Television: A Study Package (1981)**

The reasons behind the development of these materials for use by students and staff of the Open University are outlined in paper 119. The package consists of a handbook together with supporting video-cassette containing extracts from Open University television programmes. These materials illustrate the different responses which the varied programme formats demand from users. [TV] [StudentUsage]

184 **BROWN D. H.** **Roles for Instructional Television**

(Presented at the conference on *Audio-visual Methods for Staff Training,* University of Keele 1981 14 pages)

Many people have to make decisions about when the use of instructional television would be appropriate. A review of the literature on this topic, and some of the early research suggests that although we can be confident that students can learn from television we are given little help in deciding when the medium should be used. The Open University's allocation of television to individual courses is shown to be based on a combination of pragmatism, experience, and data from programme evaluations rather than a general theory of instructional media. Fortunately some recent research does seem to give us hope that we will eventually understand more about the complex set of interactions which take place when visual media are used as part of the learning process. [Multi-media&CD] [TV]

(3d) Case Studies and Documentaries

77 **BATES, A.W. & GALLAGHER, M.** **Improving the Effectiveness of Open University Television Case-Studies and Documentaries**

(Internal memo 1977 40 pages)

This paper brings together the results from a number of evaluations of television programmes in different faculties which have adopted a "case-study" or documentary style. The paper raises questions about the meaning of these terms in the Open University context, and defines five different dimensions along each of which such programmes can vary. Thus there is a great variety of documentary-type programmes. The paper argues that course teams should deliberately choose what kind of documentary they want, based on pedagogical grounds, but that usually these decisions are made by producers largely on technical grounds. The paper suggests various ways in which greater academic control could be exercised over such programmes. [TV] [Video]

91 **GALLAGHER, M.** **Good Television and Good Teaching: Some Tensions in Educational Practice**

(in *Educational Broadcasting,* 1978, Vol. 11 No. 3 8 pages)

This paper argues that the Open University since its inception has not developed a distinctive style of teaching by television, and that the pedagogic functions of the medium have not been explored and improved as much as other teaching components. The argument hinges on a distinction drawn between 'good television' (i.e. technically sophisticated and 'interesting'

programmes) and 'good television in the educational context'. The discussion is illustrated by references to 'documentary style' programmes in particular; it is suggested for example, that students may need assistance, preferably within such programmes, if these are to achieve their pedagogical objectives. [TV] [StudentUsage]

(3e) 50 minute Broadcast Programmes

62 GALLAGHER, M. **Preliminary Report on 50 minute TV Programmes**

(Internal Report 1976 5 pages)

This paper is a study of implications for students in transmitting double-length television programmes. At the time of writing this report available data was limited to one social science programme, as 50 minute programmes were a new venture for Open University broadcasting. A questionnaire was sent to a sample of students taking the Patterns of Inequality course concerned and while the results are not claimed to be generalizable to the content of other 50 minute programmes, a number of practical problems emerged. [TV]

(4) BROADCAST SURVEYS AND ANNUAL SURVEYS OF NEW COURSES

(For other survey data see **[StudentUsage]**; for evaluations of courses and individual programmes see **[Evaluation]**.)

44 BATES, A.W. **Student Use of Open University Broadcasting**

(Internal paper 1975)

This is a report on the first of a series of University-wide surveys on student use of broadcasting - see also papers 80, 97, 116 (this section) and 119 (previous section. All courses currently on offer in 1974 were surveyed, and viewing and listening rates, and student ratings of the helpfulness of the full range of components offered to students, were obtained. This paper draws attention to the drop in viewing and listening rates likely to be caused by the imminent loss of repeats due to shortage of adequate transmission time.

80 GALLAGHER, M. **Broadcasting and the Open University Student 1976**

(Internal Report 1977 89 pages)

This, like Paper 44, is a major study on the use of broadcasting at the Open University based on survey data from over 10,000 students. Both studies show that radio is the least used and valued of all the media, but that there are important individual differences between students in their use of radio. The

studies also examine the effect of transmission times on listening figures, the importance of repeat transmissions and differences in listening figures for different kinds of course.

97 GRUNDIN, H. **Broadcasting and the Open University Student: The 1977 Survey**

(Internal report 1978)

This 1977 survey complements earlier surveys of all OU courses in 1974 and 1976 (papers 44 and 80). It updates the information by providing data on new courses and on courses which lost their television repeats. The report provides text and tables on viewing and listening figures and summative evaluation data on student use of broadcasting.

116 GRUNDIN, H. **Open University Broadcasting: Results of the 1978 Survey and Overviews of Survey Results 1974-1978**

(Internal report 1979)

Summarizes the results of the 1978 Broadcast Survey, which included 35 undergraduate courses (12 new courses and 23 courses having lost their television repeats) and 2 short courses, and presents overviews of viewing/listening rates and helpfulness ratings for all courses surveyed 1974-1978. It is emphasized that OU broadcasting policy needs to be reappraised: as regards television in view of this increased shortage of broadcasting time, and as regards radio in view of the potential role of audio-cassettes.

149 GRUNDIN, H. **Audio-Visual and Other Media in 91 Open University Courses: Results of the 1979 Undergraduate Survey**

Summarizes the main results of the 1979 Broadcast Survey with regard to the use of AV media among the 13,057 undergraduates who returned questionnaires. The survey covered 91 undergraduate courses (all foundation courses and all other courses on offer in 1979 which would remain on offer at least until 1981). The report presents information about, among other things: (i) students' access to AV equipment of various kinds; (ii) the suitability of broadcast transmission times; (iii) the extent of viewing/listening in individual courses; (iv) helpfulness of AV media as well as degree of students satisfaction and reasons for lack of satisfaction.

Details are given in the report about the whole range of survey data available on computer files for future reference and further analyses. The findings of the survey highlight several serious problems, particularly in the broadcasting area (e.g. considerable drops in overall viewing/listening rates), but the report also gives numerous instances of successful use of AV media.

168 GRUNDIN, H. **Broadcast Survey 1979**

(Internal paper 1980 6 pages)

This paper briefly describes the data available for individual courses plus mean, minimum and maximum values in each variable for all 91 undergraduate course samples included in the survey.

195 GRUNDIN, H. **Overview of Student Summative Evaluation of 1981 Courses**

(Internal report 1982)

This paper summarises the feedback obtained for new courses in 1981 through the AV Media Survey (carried out in November 1981). The main feature of the paper is a set of individual 'Course Profiles' showing student use and appreciation of various course components/services.

186 GRUNDIN, H. **Factors Influencing Viewing and Listening Rates Among OU Undergraduates**

(Internal paper 1982)

The paper presents results of correlations and regression analysis carried out on data from the 1979 and 1980 AV Media Surveys (a total of 108 courses). It is shown that television and radio differ in that viewing is more influenced by the opportunities offered (number of transmissions and times) than is listening. One consequence of this is that TV repeats are not, in themselves, important as long as the level of viewing opportunity is high. Various indices of successful use of broadcasts are studied and it is shown that each of these indices can be valuable depending on the circumstances: (i) viewing/listening rate; (ii) helpfulness rating; and (iii) a new 'audience-attraction' index. An appendix gives these indices for all 108 courses surveyed in 1979-80. [StudentUsage] [TV] [Radio&Audio] [ResearchMethod]

224 GRUNDIN, H. **Audio-Visual Media in the Open University: Results of a Survey of 93 Courses**

(Internal report 1983 31 pages)

This survey complements the 1974 and and 1979 surveys, and had the dual aim of (a) assisting in policy-making and planning in the area of audio-visual media and (b) to provide a data base for summative evaluation of the use of audio-visual media in individual courses. In view of the limited resources available, the emphasis was primarily on the first aim, and detailed data about individual courses were only collected for the 17 new courses. The report provides important data on, amongst other things, student access to

audio-visual equipment and microcomputers, as well as information on the use and appreciation of television, radio and audio-cassettes.

261 GRUNDIN, H. **Report on the 1984 AV Media Survey**

(Internal report 1985)

The 1984 AV Media Survey comprised 16 new and 7 continuing courses. The new courses were surveyed in accordance with a long-standing policy of collecting end-of-year feedback for courses in their first year of presentation. The continuing courses were selected primarily as part of an attempt to look at the historic trend in student appreciation of Summer Schools. The Survey provides data on student access to media/equipment, television and audio-cassette data for new courses; use, irrelevance and difficulty indeces and helpfulness ratings for new courses; and demand for components/services in new courses.

SRC4 LAWLESS, C. & CROOKS, B. **Report on the Annual Survey of New Courses 1985**

(Internal report, 1986)

The Annual Survey of New Courses is a questionnaire sent to students after they have completed their examinations but before they have received their results. Questionnaires were sent to all 9,544 finally registered students taking courses which were available for the first time in 1985. The survey asked students to rate the use that they made, the helpfulness and the media-mix they would like of the variety of components which together make up the OU teaching system. The authors comment on: use made of components; helpfulness of components; media-mix preferences; audio-visual data for new courses and the review of new courses.

SRC6 LAWLESS, C. **Report on the Annual Survey of New Courses, 1986**

(Internal report, 1987)

This year's annual survey also includes a section on the helpfulness of main teaching components over the period 1982-1986.

SRC13 LAWLESS, C. **Report on the Annual Survey of New Courses, 1987**

(Internal report, 1988)

The relatively limited number of new courses in 1987 (ten) allowed four continuing courses to be re-surveyed and student responses compared to those of the original surveys. These comparisons show a remarkable consistency of response, albeit with a slight decline in both use and

helpfulness ratings. The survey also includes a section on the use made of main teaching components in the period 1984-1987.

SRC25 LAWLESS, C. **Report on the Annual Survey of New Courses, 1988**

(Internal report, 1989)

In 1988 the University's home computing policy was introduced in three courses, including for one course a nation-wide computer conferencing facility, and one course was co-published with a commercial publisher. In evaluating these innovations the ASNC provides basic background information. In 1988 the survey included questions on students' general attitudes to the difficulty, interest and workload of courses and their reactions to the examinations papers. In the light of the introduction of the home computing policy earlier responses to computing are reviewed. The reactions of students to home experiment kits and to radio, which are used in only a minority of courses, are also reviewed.

SRC31 CALDER, J. **Report on the Annual Survey of New Courses 1989**

(Internal report, 1990)

This report is the fifth in a series of annual reports about students' use of and reactions to new courses in their first year of presentation. The quality of new courses is monitored by means of (i) year to year comparisons (from 1984 onwards); (ii) comparisons between different media; and (iii) comparisons between different courses. The study provides comparative descriptive data, and although it highlights courses or course components which appear to be presenting problems for students, it does not attempt to provide an explanation for those problems. There were 12 new courses in 1989, covering 6 faculties. Eight courses had a TV or video component, four had audio only, and four were co-published.

(5) THE OPEN UNIVERSITY/BBC RELATIONSHIP

18 BATES, A. W. & RADCLIFFE, J. **The Open University and the BBC**

(*Audio-Visual Communication in the University*, Liege, Belgium AUPELF 1973 18 pages. Available also in French)

This paper provides general background information on the Open University, its structure and economics, emphasising the integrated nature of its multi-media system. It examines specific issues related to broadcast resources, suggests some general and particular functions of broadcasts and

discusses how the Open University and the BBC work closely together to achieve their educational and production aims.

48 **BATES, A.W.** **The Control of Broadcasting at the Open University**

(*Educational Broadcasting International*, 1975)

This is an account of the way the BBC and Open University jointly exercise control over radio and television at the Open University. It describes the formal agreement, the financial position and how the responsibility for programmes is shared. The paper also discusses the problems such a system may raise.

46 **BATES, A.W.** **The Use of Television and Other Audiovisual Media in the Open University**

(*Scienza and Tecnica 75* Mondadori Milan 11 pages)

This paper gives general background information on the Open University, then describes the role played by producers and broadcasting within its system. It discusses both the educational functions of television and the economic issues related to their use.

170 **BATES, A. W.** **Producer/Research Co-operation at the Open University**

(*Children's Television Workshop Bulletin*, New York, 1980)

This paper describes the relationship between researchers and producers at the Open University. Based on a short case-study of a co-operative project, the paper discusses the practical constraints, the research strategy, and the way the research findings were implemented. [ResearchMethod]

MULTI-MEDIA & COURSE DESIGN IN DISTANCE LEARNING SYSTEMS

SUB-SECTIONS

(1) The Open University Experience
(2) New Technology and Course Design
(3) Using Multi-media

The papers in this file provide an overview of the use of media, and considerations to be taken into account in deciding media-mix within a course. Papers included here are in the main concerned with multi-media - i.e. ones in which a range or a selection of audio-visual media are discussed (albeit in some cases only briefly) - e.g. radio *and* broadcast television; terrestrial broadcasting, cable *and* satellite, video-cassettes *and* audio cassettes, viewdata *and* teletext and so on. These papers would be difficult to categorise in those sections which deal with a particular medium and its characteristics.

In Section 1, the emphasis is on the way in which the Open University has utilised various media, and the lessons which have been learnt over the years. In Section 2 the emphasis is upon the use of new technology, its likely impact on course design, and trends for the future. For more detailed information on new technologies, see the file **[Comp/Comms Tech]**. Section 3 consists of papers which discuss more specific issues related to the use of multi-media in courses.

NB The term 'multimedia' is beginning to be appropriated by the developers of computer based systems many of which support the use of a variety of media and hypermedia (e.g. video, video-disc, hypertext, real-time video links and so on). This useage is distinct from the more general term 'multi-media', by which is meant the use of multiple forms of media (e.g. broadcast television, radio, text, video-cassette and so on), which are not controlled and co-ordinated by a computer. For information on multimedia systems see the file called **[Comp/CommTech]**.

Readers are advised to scan other sections of the bibliography to obtain more detailed information regarding individual media (e.g. **[TV] [Radio&Audio] [Video]** etc). For further information on how courses actually have used various media see **[Evaluation]**. For information on how students actually use AV media, what they prefer and what affects their understanding of AV material see **[StudentUsage]**.

(1) THE OPEN UNIVERSITY EXPERIENCE

1 **BATES, A.W.** **Exploring the Media**

(Internal paper 1970)

The purpose of this paper is to draw attention to the role that research might play in determining the best use of the Open University's teaching media. The paper is deliberately loosely structured and is aimed at stimulating discussion about the functions of the various media in the Open University teaching situation - a prerequisite for any enquiry into the role of television and radio in the Open University. [ResearchMethod]

8 **BATES, A. W.** **The Role of the Teacher in a Video-teaching System**

(*Audio-Video Conference*, Vichy, France UNESCO, 1972)

This paper concentrates on the role of the teacher in multi-media courses which are centrally designed. It draws largely on the Open University experience for illustration. Some problems of course design are described, and five functions of educational television suggested. The main emphasis of the paper is upon the implications of using a multi-media system for its teaching staff, both for the producer/designers of the materials, and for the intermediaries (tutors) who have direct student contact. Teaching functions and training needs are discussed along with such issues as teacher autonomy and political vulnerability. [Video]

15 **PERRY, W., BATES, A. W. & MOSS, G. D.** **Multi-media Methods at the Open University**

(*Anglo-Rumanian Society Conference*, Cambridge England 1973)

This paper gives general information about the Open University system, explaining the teaching components it uses. In particular the paper discusses how the Open University seeks to integrate these components by using a Course Team approach to the design of its courses. It describes how decisions are reached as to course objectives, mode of assessment and which media are to be implemented, and how administrative pressures may affect these decisions.

16 **BATES, A.W.** **Educational and Cost Comparisons Between Open-network, Cable and Cassette Systems of Multi-media Teaching**

(*8th Mediorama*, Blankenberge, Belgium: Kingdom of Belgium Ministry of Employment and Labour 1973 26 pages)

Decisions as to the most appropriate choice of media involve resolving a tension between educational requirements and cost factors. This paper sets out in detail how the Open University reached decisions about the choice of media and suggests that it provides a working model applicable to any organisation or system. It discusses all the factors affecting choice such as educational requirements, student and institutional characteristics and the available technology; it examines how the model can be applied to changing factors and data.

64 **BATES, A.W.** **Broadcasting and Multi-media Teaching**

(In J. Tunstall (ed.) The Open University Opens, London: Routledge and Kegan Paul, 1973)

This paper concentrates on two basic issues related to Open University broadcasting. It argues that broadcasting is economically justified, and is necessary on educational and social grounds at the Open University. It questions, however ,whether the broadcasting component is used effectively due perhaps to a lack of integrated course design, a lack of knowledge about the adult learner, and operational constraints. [Broadcasting]

17 **BATES, A. W.** **Problems of Broadcasting: A Guide to Tutors**

(Teaching by Correspondence in the Open University, Milton Keynes, 1973)

This paper offers some general guidelines to Open University tutors on the use of broadcasts as a teaching medium. It discusses the functions of programmes (in particular those which present case-studies), student expectations of television, and some problems of visual evidence, and how the emotional impact of television may affect its educational aims. [StudentUsage] [Broadcasting]

184 **BROWN D. H.** **Roles for Instructional Television**

(Presented at the conference on *Audio-visual Methods for Staff Training*, University of Keele 1981 14 pages)

Many people have to make decisions about when the use of instructional television would be appropriate. A review of the literature on this topic, and some of the early research suggests that although we can be confident that students can learn from television we are given little help in deciding when the medium should be used. The Open University's allocation of television to individual courses is shown to be based on a combination of pragmatism, experience, and data from programme evaluations rather than a general theory of instructional media. Fortunately some recent research does seem to give us hope that we will eventually understand more about the complex set of interactions which take place when visual media are used as part of the learning process. [Broadcasting] [TV]

26 **BATES, A. W.** **Success and Failure in Innovation at the Open University**

(*Programmed Learning and Educational Technology*, Vol. 11, No. 1, 1974 15 pages)

This paper looks at a number of innovations associated with the Open University and discusses how after its initial successes it was faced by a new and difficult range of problems. The difficulties stemmed from the need to find an appropriate structure of higher and adult education generally. Such problems are not necessarily specific to the Open University, but its general design and in particular the concept of the "Course Team" promise ways of coping with them.

49 **BATES, A.W. and PUGH, A.K.** **Designing Multi-media Courses for Individualised Study: The Open University model and its relevance to conventional universities**

(*British Journal of Educational Technology* No. 3, Vol.6, October 1975)

An account of the method of course design at the British Open University, and the way radio and television are integrated with other teaching components. Included are comments on the potential and limitations of such a design method for conventional University teaching.

74 **BATES, A.W.** **Radio and Television for In-Service Teacher Education in the United Kingdom**

(Presented at the *International Seminar on Use of Mass Media for the Further Training of In-Service Teachers*, Warsaw, Poland 1977)

There is no centralised policy for using television and radio for in-service teacher education in Britain; by far the largest user though is the Open University, which uses multi-media designed courses to lead to a degree qualification. It also provides courses in Educational Studies to improve the pedagogy of existing teachers. Television and radio tend to be used for functions difficult to achieve through print since correspondence texts form the main core of the teaching system. This paper expands on the role of broadcasting at the OU, explains some of the problems related to its use and suggests how it contributes to the success of the Open University.

130 **BROWN, D.** **Educational Broadcasting: two lessons from the Open University experience**

(Presented at the *Pacific Telecommunications Conference*, Honolulu, Hawaii, USA. 1979)

The Open University has developed a distance learning system which allows adults to study undergraduate level courses at home. Television and radio programmes form an important part of these courses. This successful use of educational broadcasts contrasts sharply with many other projects where the results have frequently not matched the expectations. After a description of the University's teaching system - and the role of broadcasting - this paper uses examples taken from the Open University's experience to suggest two reasons why educational broadcasting has not always been as successful.

143 **BATES, A.W.** **Applying New Technology to Distance Education: A Case Study from the Open University of Difficulties in Innovation**

(*Educational Broadcasting International*, Vol. 13, No. 3, 1980)

CYCLOPS is a good example of the possibilities for education on new microprocessor technology. CYCLOPS also provides a good case-study of some of the difficulties to be encountered in innovating with new technology in large educational institutions. The system is briefly described, followed by an analysis of the financial difficulties encountered in moving from a prototype to a developmental stage. The teaching functions, the way the tutoring would be organised, regional acceptance and difficulties at local centres with the technology itself are described. Finally, a number of general observations are made about the problems of innovation arising from this case-study. [Cyclops]

183 **BATES, A. W.** **Learning from AV Media: The Open University Experience**

(*Teaching at a Distance* Research Supplement, No. 1, 1982)

This paper summarises the research of the AVMRG over the last eight years. It starts by providing a theoretical framework within which Open University AV media is used and analyses the main, unique teaching roles of television and radio in the OU. The main part of the paper though deals with the conditions that must be met for effective learning from AV media to take place, in the OU context, discussing issues such as relevance, individual student differences, and variations in student control over different media.

241 **BATES, A. W.** **New Media in Higher Education**

(*New Communications Technology in the University* Conference, Berlin 1985, 15 pages)

The Open University from its inception in 1969 has been a technologically based university. It uses technology to deliver high quality, specially designed teaching materials to large numbers of adult students throughout Britain, and increasingly abroad, who study primarily at home. While the Open University has experimented with a number of new technologies, it is clear that some of these technologies are in fact likely to be just as useful in conventional education as in distance teaching. In the last few years, the OU has obtained practical experience in using a number of new technologies for teaching purposes. Using just three, the author illustrates two major features of the new technologies: the increased instructional power and the increased flexibility of some of the newer technologies. The instructional power comes from improved feedback and interaction for learners, and the increased flexibility comes from the ability of some of the new technologies to exploit fully the range and power of the teacher at a distance, while providing individually adapted courses for individual learners. However, while such technologies are already available, it is likely to be a number of years before they are used on a large scale in higher education, not so much because of resistance from teachers and students, but because of the inability of large organisations to make the structural changes necessary for the successful implementation of such technologies on a large scale.

252 **BATES, A. W.** **Creating a Technologically Innovative Climate: The British Open University Experience**

(OECD Workshop, Paris,1986 15 pages)

The Open University is an important agent in Britain for creating a technologically innovative environment. It does this in at least three ways: (i) by creating courses which encourage innovation, these courses not only influence specific target groups, but through their method of dissemination, these courses also bring to the attention of the general public important

technological developments; (ii) by using teaching methods and media which are themselves technologically innovative, influencing not only the students who study in this way, but also the educational world at large; (iii) by itself being a system which is designed to be innovative, adaptive and productive.

276 **BATES, A. W.** **Experiences from the British Open University and Pointers to the Future**

(Swedish Educational Broadcasting Corporation Conference on *Distance Education*, Stockholm, 1988)

Drawing on his nineteen years' experience in the British Open University, the author discusses the nature of open and distance learning and lessons to be learnt from the OU experience. He concludes that there is no single 'best' model of distance education, although certain essentials do need to be recognised for a successful system: a coherent and wide-ranging set of courses; flexible study structures suited to the needs of working adults; high quality teaching material using a range of media; substantial numbers of students; extensive provision of tutorial and counselling services; and strong and continuing political commitment plus adequate funding.

(2) NEW TECHNOLOGY AND COURSE DESIGN

See also the file [Comp/CommsTech] for more information on new technologies and computing.

79 **BATES, A.W. & KERN, L.** **Alternative Media Technologies for the Open University**

(Open University 1977 71 pages)

This research reports on costed alternatives to the direct transmission of audio-visual material, examines the feasibility for distance teaching of new developments in technology, such as electronic blackboard, audio-vision, Viewdata and telephone teaching and compares their costs and educational potential with those of radio, audio-cassettes and television. [Comp/CommsTech]

87 **BATES, A. W.** **Options for Delivery Media**

(In H. Perraton, (ed.) Distance Teaching for Formal Education: Costs and Effects, Washington D.C., World Bank 1978)

This chapter examines the range of audio media available for educational and development in developing countries, and examines the unique role of radio

when other audio media are also available. It looks at comparative costs and the educational advantages and limitations of radio, cassettes, records, telephone teaching, television, and new media, such as electronic blackboard, Viewdata and T.V. games. [Comp/CommsTech]

90 **BATES, A.W.** **New Technology for Home-based Learning: The Challenge to Campus-based Institutions**

(*Journal of Educational Television*, Vol. 13, No. 2, 1978 31 pages)

It is argued that there is an urgent need to expand the range of courses available for home-based learners. The necessity for incorporating new developments in audio-visual media in such teaching is examined, and such media are described with their possible teaching role. It is argued that campus-based institutions are well placed to provide home-based courses and to develop appropriate teaching material or 'soft-ware' for new media, in conjunction with other organisations. However, it is necessary for campus-based institutions to make radical changes in their methods of working for such developments to be successfully introduced.

217 **LAURILLARD, D. M.** **Styles of Computer Based Learning and Training**

(in N. Rushby (ed.) Computer Based Learning and Training, Pergamon Press 1983)

This paper discusses styles of CBL and CBI in terms of their fundamental educational characteristics, such as the balance of control between program and learner, and the kinds of learning activity they induce. Learning and training are not considered to be intrinsically different in practice, and styles such as drill-and-practice, tutorial, simulation and modelling are discussed with reference to both. Current implications of these are described together with a critique of their advantages and disadvantages. Finally the paper discusses the likely educational potential of the new media, and suggests an appropriate model for courseware development. [Comp/CommsTech]

218 **FULLER, R. G. (ed.)** **Using Interactive Video-discs in Open University Courses**

(Internal report 1983)

A collection of papers presented at the workshop on using interactive video-discs organised by the Audio Visual Media Research Group, IET, Open University, June 1983. Papers cover use, design and evaluation of video-disc material. [InteractiveVideo]

220 **BATES, A. W.** **Overview of the Use of Media in Distance Education**

(Paper for Norwegian Association of Correspondence Schools, Oslo, June 1983 13 pages)

This paper reviews the use of different audio-visual media in distance education, including terrestrial broadcasting, cable and satellite, video-cassettes, audio-cassettes, telephone teaching, Viewdata and Teletext, micro-computers, and interactive video. The paper also includes a summary of trends in distance education, and relates them to trends in media technology development. The paper concludes with some major implications for distance teaching institutions. Papers numbered 221 (this section) and 222 (in [TV] [Radio&Audio]) develop further some of the issues in this paper. [Comp/CommsTech]

221 **BATES, A. S.** **Recent and Future Trends in Media at the Open University**

(Paper for Norwegian Association of Correspondence Schools, Oslo, June 1983 9 pages)

This paper discusses in detail four major developments in the use of media at the Open University: the move from radio to audio-cassettes; broadcast TV vs video-cassettes; interactive video, and CYCLOPS. This paper links in with papers 220 (this section) and 222 (in Using Multi-media below).

233 **BATES, A. W.** **The Implications for Teaching and Learning of New Informatic Developments**

(*Higher Education International's First Annual Conference*, York 1984)

This paper looks at how new developments in communications technology can help meet major higher education needs up to the year 2000. The paper describes some of the strengths and weaknesses of four new technologies - computer conferencing, cable TV and video-cassettes, computer-based audio-graphics systems, and interactive video-discs - for conventional on-campus teaching, in comparison with audio-cassettes and computer-aided learning. It is suggested that the potential now exists for a flexible mixture on on-campus and off-campus teaching. However, the paper also suggests that innovation will be very slow, not because of cost or technological limitations, but due to institutional barriers. [Comp/CommsTech]

237 BATES, A. W. **In the Comfort of Your Own Campus: New Technology and its Impact on Conventional and Distance Education**

(*Times Higher Education Supplement*, April, 1984)

In this article the author discusses the potential for distance education of cable television and video-cassettes; computer conferencing and computer-based audio-graphic systems. Commenting on how new technology can engender new institutional models, he cautions that currently existing political and institutional barriers will impede progress.

238 BATES, A. W. **Selecting and Designing Low-Cost Media for Distance Education**

(Paper presented at Ziff, Fernuniversitat, Hagen, Germany, October 1984)

In answering the question "Why use media?' in education, the author suggests that newer technologies have specific advantages over existing teaching media: they deliver materials more effectively; they provide variety in learning materials; some of the newer media are stronger instructionally; some are more cost-effective; and some are now sufficiently easy to use to make the design of distance teaching materials less difficult and time-consuming. These points are elaborated in relation to four low-cost media - audio-cassettes, audio-graphics systems, video-cassettes and computer conferencing.

244 BATES, A. W. **Research into the Use of Advanced Technology in Education: Future Requirements**

(Conference on *Future Research in French Education*, Paris 1985 22 pages)

It is argued that there will be greater use of independent learning and distance education in the future, combined with increased use of technology. Research into new technology in education should therefore be a high priority. Three kinds of research are required: an identification of the different teaching roles for each medium; development of methods of cost-analysis which help to make decisions about which media to use; and research into the organisational changes needed to ensure that technology is used successfully in education. The paper ends with a brief discussion of the need for new approaches to research and for adequate independent funding. [Comp/CommsTech]

247 BATES, A. W. **Description of Idealised Information Technology System for Education and Training**

(Report prepared for *Analysys Ltd.*, 1985 13 pages)

This paper attempts to identify an idealised information technology system for education and training implementable within a 10-15 year period. It looks at likely hardware configurations, identifies teachers' needs for IT systems that are not currently being met at a price suitable for education and training purposes, then specifies teaching functions that an idealised system might meet. The paper examines those functions which might be best left to teachers, and those that might best be accommodated within an IT system. The paper concludes by suggesting two rather different types of idealised system: a hierarchical model, where teaching materials are centrally designed and produced, and where all teaching functions are accommodated within the system; and a networking model, where IT is used primarily for facilitating communications between teachers and learners, and where teachers and learners create their own materials. **(Restricted circulation)**

250 BATES A. W. **Computer Assisted Learning or Communications: Which Way for Information Technology in Distance Education?**

(*Canadian Journal of Distance Education*, Vol.1 No.1 1986 17 pages)

Two uses of computers for teaching in distance education are compared and contrasted: systems on structured, pre-programmed learning materials (i.e. computer-assisted learning, or CAI), where the learner communicates as if with the computer; and systems based on the communications functions of computers (i.e. computer-mediated communications systems), using electronic mail, conferencing and data-bases to facilitate communication between teachers and students. It is argued that the two systems represent quite different educational philosophies, and for distance teaching at a higher educational level, the communications mode offers a more appropriate, humanistic, and pragmatic route for future development.
[Comp/CommsTech]

274 BATES, A. W. **Technology for Distance Education: A 10 year Prospective**

(*Open Learning*, Vol. No.3,1987)

This paper attempts to provide an overview of new technologies likely to be widely available for distance teaching in Europe within a 10 year time-frame, attempts to look at the decision-making and organisational requirements

necessary to ensure that technology is properly used, and also looks at the implications of technological developments for European-wide co-operation and delivery of distance teaching materials.

277 **BATES. A. W.** **Delivery and New Technology**

(in N. Paine, (ed.) Open Learning in Transition, Cambridge: NEC, 1988)

This chapter contains material from articles in 'Distance Teaching' (the journal of European Centre for the Development of Vocational Education [CEDEFOP]) and 'Open Learning', and discusses criteria for decision making with regard to media mix for open learning.

282 **BATES, A. W.** **Technology and Course Design for European-wide Distance Education Courses**

(Paper for European Association of Distance Teaching Universities, Working Group on Media and Technology - 1989 Revised 1989)

This paper is directed at the EADTU joint course project teams and the media and Technology Working Group. The aim of this paper is to open up thinking at the start of the course design process about how technology might be used to meet some of the challenges of designing, producing and presenting courses to be produced and delivered across a number of European courses. Decision-making about media and technology needs to be iterative. Just as it is important to prevent technology driving the decision-making process, so it is equally important that decisions taken early on are at least well informed about the potential (and limitations) of technology. The aim of this paper is not to make detailed recommendations about the choice of technologies, but to stimulate the course planning teams to take a wide range of technological options into consideration at the start of the course design process.

288 **BATES, A. W.** **The Challenge of Technology for European Distance Education**

(in A. W. Bates, (ed.) Media and Technology in European Distance Education Heerlen: EADTU, 1989)

In this paper the author considers the external and internal challenges which new technology presents to EADTU institutions. In order to survive, it is argued, EADTU institutions will need to meet the technological challenge, not by rushing blindly into 'pilot' courses based on the latest technological fashion, but by modifying courses so that the newer technologies are used to

widen rather than restrict access, and to improve the quality and cost-effectiveness of the teaching, rather than to save money.

290 BATES, A. W. & PRESCOTT, W. **Language Teaching, Distance Education and the New Technologies**

(Etats Général des Langues, Paris 1989)

The paper begins by outlining the Open University's current plans regarding teaching languages at a distance, followed by an analysis of the way technology can be used to facilitate the development of different language skills. The first part of the paper begins with a brief description of the Open University (its objectives, courses and students), followed by a discussion of its proposals for the introduction of language teaching and a review of the learning materials and methods which it plans to use. The second part of the paper begins with a description of the various technologies now available for teaching languages at a distance. While there are many technologies that can help, the point is made that choice of technologies depends on several key criteria: student access to technology; teaching; the amount and quality of interaction permitted by the technology and its user-friendliness; and the organisational context in which the distance teaching is provided. Lastly, the importance of inter-personal communication for language teaching is emphasised, although even this can be effectively supported at a distance through technology.

292 BATES, A. W. **Workshop on Media and Technology in European Distance Education, 1989: Results from feedback questionnaire**

(1989, 14 pages)

This paper provides a breakdown of responses to the questionnaire presented to attendees at the Workshop on Media and Technology in European Distance Education held at the Open University in May, 1989. (See paper 293, 295).

293 BATES, A. W. **Workshop on Media and Technology in European Distance Education, 1989: A Report**

(1989, 9 pages)

This is a report on the questionnaire presented to attendees at the workshop and offers recommendations for future organisation of such events. (See papers 292, 295)

295 BATES. A. W. **Media and Technology in European Distance Education: The Future**

(in A. W. Bates, (ed.) Media and Technology in European Distance Education, Heerlen: EADTU 1989)

The EADTU (European Association of Distance Teaching Universities) Executive strongly believes that developments in media and technology will become an increasingly important aspect of distance education and training in Europe, and that collaboration and co-operation between its member institutions will be essential to achieve the full benefits of new technology, and for the member institutions to stay ahead in an increasingly competitive environment. Drawing on the papers presented in the book, and questionnaire data obtained from participants at the workshop (see papers 292 and 293) the author discusses whether this view is reflected at a grass roots level.

P4 CROOKS, B. **The Potential of Non-Broadcast Television Technologies for Learning and the Implications for Educational Television Design and Research**

(Tel-Aviv Seminar on *ETV Broadcasting Research in the Nineties* sponsored by the European Broadcasting Union, Tel Aviv, Israel, March 1990 9 pages)

The teaching potential of video-cassettes and video-discs are reviewed, together with an indication when mass access is likely to rival that of broadcast television. Since the immediate challenge is presented by video-cassettes, the implications that the characteristics of this technology have for television design are explored. The changes to broadcast educational television that are likely to result from the impact of the video-cassette medium within the next decade are explored by means of a brief scenario. [Video] [Broadcasting] [InteractiveVideo]

(3) USING MULTI-MEDIA

4 BATES, A. W. **Use of Broadcasts in "parallel" to Correspondence Texts**

(Internal memo 1971 5 pages Circulation: Senior Producers and IET)

This paper discusses the planning implications for course design where television and radio are to be used together with other components. It emphasises the need to integrate broadcasts into a course of study and suggests how this may be achieved even where direct links between programmes and the correspondence text are absent or slight. (This issue is

discussed in Paper 77 [TV] in the light of a good deal more experience of different models of integration). [Broadcasting] [TV] [Radio&Audio]

7 **McINTOSH, N.E., & BATES. A. W.**

Mass Media Courses for Adults

(*Programmed Learning and Educational Technology*, Vol. 9, No.4, 1972 14 pages)

This paper discusses some of the problems inherent in the design of mass-media courses for adults, as distinct from more conventional courses. It describes how research can assist both producers and users of such courses and refers to actual research findings at the Open University to illustrate its points.

27 **BATES, A.W.**

Obstacles to the Effective Use of Communications Media in a Learning System

(In G. Jamieson, and J. Baggaley, (eds.) Aspects of Educational Technology VIII London: Pitman 1975 17 pages)

This paper argues that there is relative ignorance as to how institutions should use communication media properly for teaching despite its enormous potential. A number of problems are discussed and solutions advocated relating to the functions appropriate for media, student learning difficulties, methods of organising institutions, finance and appropriate research methods.

54 **MEED, J.**

The Use of Radio in Open University Course Design 1971-74

(Milton Keynes, Open University 1976)

This survey is based on the actual use of radio in nearly 200 randomly sampled Open University programmes. It provides a useful classification - with examples of different teaching functions for radio when other media, such as television and print are also available. It also quantifies the frequency with which each type of programme was used. [Radio&Audio] [StudentUsage]

106 **BATES, A.W.**

The Use of Media for Science Teaching in Higher Education

(in J. Gilbert, and M. Haj-Issa, (eds.) Science Teaching in Higher Education, 1979)

A number of examples are given in this paper of how various media can be used to perform a valuable role in science teaching. The discussion covers many practical issues such as costs and emphasises in particular the nature of, and need for, advance planning if media are to be introduced as an effective aid to learning.

207 LAURILLARD, D. M. **Applying Educational Research to Design Education**

(*Design Studies*, Vol. 3, No. 4, 1982)

This paper is a brief review of recent trends in educational research, with some comments on applying research methods in the context of design education. The recent trends in educational research are identified as being linked with classroom practice and include case studies, action research and phenomeno-logical methods. Some examples are given of these types of educational research. The paper concludes with suggestions for classroom-based research that teachers themselves can do.

251 DURBRIDGE, N. **Integrating Television and Audio-Cassettes: A Case Study of TV6, E206 Personality Development and Learning**

(Internal report 1985 9 pages)

This paper describes the closely worked connections between text, television and audio-cassette materials on one section of E206. It discusses students' favourable responses to the use of Audio-Vision (cassette with extensive notes) as a means of examining broadcast television content. [Evaluation]

257 BATES, A. W. **Media in Distance Education**

(J. Jenkins, (ed.) Commonwealth Co-operation in Open Learning London: Commonwealth Secretariat 1988)

Unfortunately, the failure of many media-based projects has understandably led many planners to believe that for distance education, media (other than print) are an expensive luxury, best left alone. This assumption though is just as naive as the assumption made over 20 years ago about the power of media to solve basic educational problems. Media do have a useful role to play in distance education. What is important is to be aware of their potential and their limitations, and even more so to understand the conditions that are necessary for their successful use. This paper tries to set out what is known from experience about the use of media in open and distance education, and in particular the conditions that must be met for their successful use in collaborative projects.

264 BATES, A. W. **Teaching, Media Choice and Cost-effectiveness of Alternative Delivery Systems**

(*Vocational Training Bulletin* (CEDEPOP) Vol. 1, 1988 also available in French and German)

Vocational training is undergoing radical change due to the large-scale and effective introduction of open learning and distance teaching methods, initially at the higher education level, but now rapidly spreading to vocational training. There has also been a rapid increase in the technologies available to trainers, and this has led to the problem of choice: what media should be used for vocational training? In this paper the author discusses the procedures and criteria for decision making in this area and offers advice in the design of a training system using audio-visual media.

85 BERRIGAN F. & GIBSON, A. **Radio and Audio-Vision at the British Open University: Towards Individualization**

(Internal paper 1977 10 pages)

This paper examines the value of audio-vision for individualising distance learning study, and examines in detail the educational differences between radio and audio-vision. [Radio&Audio]

138 BERRIGAN, F.J. **Radio, Audio-Cassettes and Portable Video**

(Internal Paper 1978 9 pages)

A paper which sets out some production guidelines about radio and audio-vision formats. It suggests a range of presentational formats which a course should cover and briefly discusses the practical and educational implications of the alternative approaches. [Radio&Audio]

AVPACK2 DURBRIDGE, N. **Designing Audio-Cassettes - A Self-Instructional Package**

Nicola Durbridge has prepared an audio-vision package which illustrates a range of ways the medium has been used on Open University courses. The commentary draws attention to the ways each extract exploits various characteristics of the medium and outlines the kinds of planning and design decisions involved in audio-cassette making. A few of these are still available from IET. A new pack is under development. [Radio&Audio]

175 DURBRIDGE, N. **Audio Cassettes in Higher Education**

(Internal memo, 1981)

This paper describes the main characteristics of audio-cassettes, and discusses how these may be exploited in an educational context. Some brief examples of usage are given but the paper emphasises that as yet there are no absolute rules about 'the best way' to use the medium. [Radio&Audio]

222 DURBRIDGE, N. **Design Implications of Audio and Video-Cassettes**

(1983 37 pages)

A paper presented as a talk to Norwegian Correspondence Schools on the use of audio and video-cassettes in distance teaching. The first section discusses the characteristics of audio-cassettes, and gives examples of how these may be exploited in an educational context. The second section focuses on video-cassettes. One example of an OU video provides the basis for a discussion of differences between two kinds of video user-groups and individuals. Two clear routes for future videos are noted. Finally, the paper comments upon some major differences between audio and video-cassettes and their implication for education. (See also papers 220 and 221 in section above). [Radio&Audio] [Video]

RADIO AND AUDIO

SUB-SECTIONS:

(1) Policy Issues Related to Radio
(2) Characteristics of Radio and Course Design
(3) Analysis of Radio
(4) Using Radio
(5) Audio Vision
(6) Audio-cassettes

Radio has tended to be rather a neglected medium at the Open University. With the increased use of audio-cassettes, questions about the role and purpose of radio have become more pressing. At the same time because of its comparatively low cost, there is a revival of interest in the use of radio for development and education in Third World countries. This file first deals with Radio, but also contains a section on Audio material.

(1) POLICY ISSUES RELATED TO RADIO

31 **BATES, A.W.** **Suggested Criteria and Guidelines for the Allocation of Broadcasts**

(Internal memo 1974 8 pages)

This paper sets out 8 general principles of broadcast allocation, which have relevance to all courses, and outlines the criteria by which individual courses are judged to need broadcast time within the competitive system existing at the Open University. (This paper has now been updated: see paper 124.) [Broadcasting] [TV]

124 **BATES, A.W.** **Appropriate Teaching Functions for Television, Radio and Audio-cassettes in Open University Courses**

(Internal memo for Broadcast Sub-committee 1979 3 pages)

This up-dates paper 31, adding a small number of new functions, and in particular separating different functions for radio and audio-cassettes. [Broadcasting] [TV]

111 BERRIGAN, F.J. **Open University Radio: What do we know about it?**

(Internal paper 1979 5 pages)

A two and a half year comprehensive study of Open University Radio is planned from 1979 and this paper invites comments and participation from outside the project group. As background briefing this paper provides a very clear and concise summary of the information so far collected from past *Media Research group studies on, for example,* transmission times, student opinion on the helpfulness of radio and usage of cassettes and recordings.

63 GALLAGHER, M. **Audio Replay Provision to Students**

(Internal report to Planning Board 1976 9 pages)

An account of a library facility which enables students who have missed a radio programme to obtain a cassette copy of the programme. The account includes full costs of the scheme.

280 BATES, A. W. (ed.) **Final Report of the Radio Transmissions Working Group**

(Internal Paper for BAVSC, 1988)

The working group interpreted its terms of reference as follows: (a) to suggest appropriate roles for radio, in the multi-media context of the Open University, given the cost-effectiveness of audio-cassettes as a teaching medium; (b) to identify the times at which these radio programmes should be broadcast; (c) to recommend to BAVSC a realistic maximum level of radio production/transmission should an abundance of convenient times become available; (d) to identify ways of encouraging academic staff and students to make better use of radio and (e) to recommend to BAVSC steps that might be taken that would encourage BBC senior management to give a high profile to selected OU radio programmes in any future plans for an educational channel. [Broadcasting]

10 BATES, A. W. **Students' Preferences for Audio-visual Material**

(Internal memo 1972)

An early report based on student questionnaire responses, which looks at the 1972 viewing and listening figures and comments upon student preferences as to broadcast timings. For more recent information see papers 93 (below) and 114. [StudentUsage]

93 GRUNDIN, H. **The Effect of Transmission Times on Students' Use of OU Broadcasts**

(Internal paper 1978)

This paper analyses in some technical detail how viewing rates are affected by transmission time allocated to radio and television programmes. Factors such as the number of programmes transmitted on a course and variations in time-slot combinations are studied. The paper also looks at differences between faculty viewing and listening figures and offers some suggestions as to how viewing and listening rates should be interpreted. [Broadcasting] [TV] [StudentUsage]

114 BATES, A.W. **Whatever happened to radio at the Open University?**

(*Educational Broadcasting International*, September 1979)

This paper summarises the research carried out to date into radio at the Open University. It draws attention to the decline in the use of radio by course teams, matched by a dramatic increase in the use of cassettes. A number of reasons for this decline are given, with a warning that there are no simple explanations and a good deal of variety in its value. [StudentUsage]

186 GRUNDIN, H. **Factors Influencing Viewing and Listening Rates Among OU Undergraduates**

(Internal paper 1982)

The paper presents results of correlations and regression analysis carried out on data from the 1979 and 1980 AV Media Surveys (a total of 108 courses). It is shown that television and radio differ in that viewing is more influenced by the opportunities offered (number of transmissions and times) than is listening. One consequence of this is that TV repeats are not, in themselves, important as long as the level of viewing opportunity is high. Various indices of successful use of broadcasts are studied and it is shown that each of these indices can be valuable depending on the circumstances: (i) viewing/listening rate; (ii) helpfulness rating; and (iii) a new 'audience-attraction' index. An appendix gives these indices for all 108 courses surveyed in 1979-80. [Broadcasting] [TV] [ResearchMethod] [StudentUsage]

(2) CHARACTERISTICS OF RADIO AND COURSE DESIGN

191 **BATES, A. W.** **The Impact of Educational Radio for Adults in Western Europe**

(*Media for Education and Development*, Vol. 15, No. 3., 1982)

Drawing on a number of European research studies, the paper presented at an EBU conference, examines the impact of educational radio for adults, particularly the educationally disadvantaged. Difficulties and ways of measuring impact are first discussed. The paper then discusses the different kinds of commitment within any one target group, and the implication of this for programming. An analysis of audiences that use educational programming is compared with some statistics on educational need. This is followed by an analysis of audiences' reactions to different kinds of programme formats, followed by a summary of results of studies of actual learning from radio. The importance of publicity both through radio and as a means of attracting listeners from the educationally disadvantaged groups, is stressed. The paper concludes that if the educationally disadvantaged adult is to be reached through educational radio, innovative approaches are necessary in many Western and European countries.

(3) ANALYSIS OF RADIO

37 **MEED, J.** **Classification of Radio Broadcasts**

(Internal report 1974)

A small sample of radio programmes was studied by Meed and categorised in terms of format. He reports here that the majority of programmes could be described as straight lectures and presents a faculty breakdown of the use made of this and other identifiable formats. The paper ends with a discussion of the problems involved in attempting such a classification in an area where there is considerable overlap and ambiguity. [ResearchMethod]

104 **BROWN, D.H.** **Educational Radio: A Select Annotated Bibliography**

(Interim report, internal paper 1978)

A collection of papers from outside the Open University aimed at providing a source of background information for studying the use of radio programming and audio-cassettes in Open University courses. The bibliography contains notes, abstracts and some useful summaries of some of the items. [ResearchMethod]

182 BROWN, D. H. **Radio Research Project: A Select Bibliography of Relevant Materials (Final Report)**

(Internal paper 1981)

This collection of items is the result of a literature search conducted for the Audio-visual Media Research Group of the Institute of Educational Technology. It was intended that the bibliography should provide a source of background information for members of the research group during a study of the use of radio and audio-cassettes on Open University courses. For this reason items were only included if they appeared to have a fairly direct relevant to this study. Although there is now an extensive literature on the roles radio can play in development communication, only a small section of items on this topic were included, mainly those which provided a synthesis of current knowledge. [ResearchMethod]

(4) USING RADIO

54 MEED, J. **The Use of Radio in Open University Course Design 1971-74**

(Milton Keynes, Open University 1976)

This survey is based on the actual use of radio in nearly 200 randomly sampled Open University programmes. It provides a useful classification - with examples of different teaching functions for radio when other media, such as television and print are also available. It also quantifies the frequency with which each type of programme was used. [StudentUsage] [Multi-media&CD]

4 BATES, A. W. **Use of Broadcasts in "parallel" to Correspondence Texts**

(Internal memo 1971 5 pages Circulation: Senior Producers and IET)

This paper discusses the planning implications for course design where television and radio are to be used together with other components. It emphasises the need to integrate broadcasts into a course of study and suggests how this may be achieved even where direct links between programmes and the correspondence text are absent or slight. (This issue is further discussed in Paper 77 [Television] in the light of a good deal more experience of different models of integration). [Multi-media&CD] [Broadcasting] [Television]

60 MEED, J. **The Use of Radio in the Open University Multi-Media Educational System 1971-74**

(In A. W. Bates and J. Robinson (eds.) Evaluating Educational Television and Radio OU Press 1977 11 pages)

Full results of the survey of the Use of Radio at the OU is available in paper 54, but the summary findings are discussed here. Brief background information is given on the role of radio, and the advice sent to students on the use of programmes, but the main section describes the methodology of the survey and the various categories of teaching functions of radio which were extrapolated from the study. [StudentUsage] [ResearchMethod]

108 BROWN, D.H. **Student Attitudes to Radio**

(Interim Report, internal paper 1979)

This report covers the data collected from the first part of a longitudinal study of student attitudes to the value of radio as an OU course component. Roughly 2000 student questionnaires were analysed and preliminary results suggest that more students were concerned that they might have difficulty studying from radio than some other course components, although there is no evidence that they were very negatively predisposed to its use. However, there were marked differences between students in their use of general programming, Maths, Science and Technology students in particular being less likely to have wide experience of listening to talks, drama, or documentary programmes. [StudentUsage]

152 BROWN, D. H. **Summary of Student attitudes to Radio (Final Report)**

(Internal paper 1980 3 pages)

This is the final report of a study previously outlined in an interim report (paper 108). It is concerned with the use of radio by students taking the introductory Open University courses. The attitudes to radio and experience of radio programming with which students began their courses was also analysed together with their rating of its value as a course component. [StudentUsage]

115 BROWN, D.H. **New Students and Radio at the Open University**

(*Educational Broadcasting International* Vol. 12, No. 3, 1979)

Intended for a wider audience than the original (paper number 108) this paper summarises the findings from a study of the use of general service radio by over 2,000 new students before beginning their first Open University course. The findings suggest that there is a strong link between the breadth of programme types experienced by students before joining the University and the extent of radio use in introducing courses. These variations in the experience of radio before joining the University has implications for the format of radio programming within these courses. [StudentUsage]

119 BROWN, D. H. **Helping Students to Learn Through Television and Radio**

(*Visual Education*, Sept. 1979 2 pages)

Several research projects have demonstrated that not all Open University students possess the skills necessary to make full use of the radio and television components of their courses. Partly as a result of this research evidence a decision was made to produce a package of materials to help students develop these skills. This paper is a report of the development of these materials by people from throughout the Open University, including Producers from the BBC/Open University Production Centre. [Broadcasting] [TV] [StudentUsage]

185 VARIOUS AUTHORS **Radio: The Forgotten Medium? Studies in the Use of Radio Programming and Audio-cassettes in Open University Courses**

(The Open University, Milton Keynes, 1982)

Set up originally to investigate the generally low utilisation of radio by OU students, and wide individual student differences in the use of radio, the study was widened to include the use of audio-cassettes as well. The study covers trends in the use and costs of radio and cassettes from 1978-82, student attitudes to and use of radio before commencing OU studies, an analysis of 71 radio programmes, students' in-depth reactions to 29 radio programmes, the use of cassettes and use of radio when cassettes are also available. The study showed that cassettes had both educational and cost advantages over radio for many of its courses, but nevertheless radio still had valuable roles to play but these were dependent on substantial improvement in the quality of transmission times. [StudentUsage]

185a VARIOUS AUTHORS **Radio: The Forgotten Medium? Section 8 - Executive Summary**

(The Open University, Milton Keynes, 1982)

As report number 180 is rather long, this section is available separately and may be sufficient for some readers. [StudentUsage]

65 BATES, A. W. & ROBINSON, J. **Evaluating Educational Television and Radio**

(OU Press 1976, available from OUEE, Open University)

This book brings together over 80 papers, and the main plenary presentations, of the first international conference on the evaluation of educational television and radio. There were participants from nearly 30 different countries, and the book contains papers from most of the leaders in the field, with an introduction by Wilbur Schramm. The papers are organised in four main sections: children's and schools' broadcasting; non-formal adult education; university and colleges; and the organisational context. [TV] [ResearchMethod]

(5) AUDIO-VISION

85 BERRIGAN F. & GIBSON, A. **Radio and Audio-Vision at the British Open University: Towards Individualization**

(Internal paper 1977 10 pages)

This paper examines the value of audio-vision for individualising distance learning study, and examines in detail the educational differences between radio and audio-vision. [Multi-media&CD]

138 BERRIGAN, F.J. **Radio, Audio-Cassettes and Portable Video**

(Internal Paper 1978 9 pages)

A paper which sets out some production guidelines about radio and audio-vision formats. It suggests a range of presentational formats which a course should cover and briefly discusses the practical and educational implications of the alternative approaches. [Multi-media&CD]

TCC9 DURBRIDGE, N. **Using Audio-Vision to Teach Mathematics**

(Teaching and Consultancy Centre report. A later draft of this paper was published in E. Henderson and M. Nathenson (eds.) Independent

Learning in Higher Education,
Englewood Cliffs, 1984)

This paper examines the use of a combination of media - sound and vision - to encourage active and participative learning. The example is taken from an Open University course, *Introduction to Pure Mathematics*, in which audio-cassettes are combined with visuals, consisting of hand-drawn diagrams bound into the course's correspondence texts. The paper concludes with a brief evaluation of this audio-vision component of the course. [Evaluation]

(6) AUDIO-CASSETTES

139 DURBRIDGE, N. S101 Radio Programmes 1-9 and Audio-Cassettes 90 and 91

(Internal report 1980)

This paper describes how both live radio and audio-cassettes were used on S101, the Science Foundation course. It analyses questionnaire data collected from students in its first year of presentation, discussing and comparing students' use of and attitudes to the two components. It discusses the general success of S101 strategy, distinguishing between the roles played by each medium and suggests that although radio was less used and less well rated than were audio-cassettes, that it nevertheless served a useful and valuable role for a majority of students. [Evaluation] [StudentUsage]

151 DURBRIDGE, N. Audio-Cassette Usage on D284, T341 & M211

(Internal paper 1980)

A paper which looks at students' use and ratings of audio-cassettes when used as the sole audio component of three post-foundation courses. It continues the study of audio-cassettes begun in paper 139. The paper draws upon this early report and seeks to provide a general overview of current audio-cassette usage and students' high opinion of the medium, to recommend certain approaches which appeared particularly successful, and to provide detailed feedback to the course teams involved. [Evaluation] [StudentUsage]

AVPACK2 DURBRIDGE, N. Designing Audio-Cassettes - A Self-Instructional Package

Nicola Durbridge has prepared an audio-vision package which illustrates a range of ways the medium has been used on Open University courses. The commentary draws attention to the ways each extract exploits various characteristics of the medium and outlines the kinds of planning and design decisions involved in audio-cassette making. A few of these are still available from IET. A new pack is under development. [Multi-media&CD]

175 DURBRIDGE, N. **Audio Cassettes in Higher Education**

(Internal memo, 1981)

This paper describes the main characteristics of audio-cassettes, and discusses how these may be exploited in an educational context. Some brief examples of usage are given but the paper emphasises that as yet there are no absolute rules about 'the best way' to use the medium. [Multi-media&CD]

222 DURBRIDGE, N. **Design Implications of Audio and Video-Cassettes**

(1983 37 pages)

A paper presented as a talk to Norwegian Correspondence Schools on the use of audio and video-cassettes in distance teaching. The first section discusses the characteristics of audio-cassettes, and gives examples of how these may be exploited in an educational context. The second section focuses on video-cassettes. One example of an OU video provides the basis for a discussion of differences between two kinds of video user-groups and individuals. Two clear routes for future videos are noted. Finally, the paper comments upon some major differences between audio and video-cassettes and their implications for education. (See also papers 220 and 221 in Multimedia and Course Design.) [Multi-media&CD] [Video]

TCC 3 DURBRIDGE, N. **Audio-cassettes**

(later draft of this paper published in A. Bates (ed.) The Role of Technology in Distance Education, Croom Helm, 1984)

This paper provides a concise outline of the main characteristics of audio-cassettes and advice on how to design them for distance teaching. The author concludes with a brief comparison of audio and video.

294 BATES, A. W. **Audio-Cassettes in the British Open University**

(Published in Bates, A. W. (ed.) Media in European Distance Education, Heerlen: EADTU, 1989)

The most widely used technology in the Open University, after print, is not television, computers or radio, but audio-cassettes. Each year, the Open University mails to students more than 750,000 hours of cassetted material. The introduction of audio-cassettes has been the most important technological innovation in the 20 year history of the Open University in

terms of the numbers of students and courses affected, and the impact on learning. They have been well tested and tried by many thousands of students and by most teachers in all faculty areas. It is no accident that audio-cassettes are so widely used. There are important lessons to be learned from this humble and unsung 'low-tech' medium, which need to be applied to the much more publicised 'high-tech' media, before the latter will gain widespread use in distance learning.

TELEVISION

SUB-SECTIONS:

(1) Policy issues related to Broadcast TV
(2) Characteristics of Television and Course Design
(3) Analysis of Television
(4) Using Television

Readers are advised to consult **[Evaluation]** for studies of media components of courses, and evaluations of individual programmes. For information regarding student use of media see **[StudentUsage]**. For details of broadcasting surveys see **[Broadcasting]**. See **[Multi-media&CD]** for further information on Course Design and media.

(1) POLICY ISSUES RELATED TO BROADCAST TV

31 **BATES, A.W.** **Suggested Criteria and Guidelines for the Allocation of Broadcasts**

(Internal memo 1974 8 pages)

This paper sets out 8 general principles of broadcast allocation, which have relevance to all courses, and outlines the criteria by which individual courses are judged to need broadcast time within the competitive system existing at the Open University. (This paper has now been updated: see paper 124.) [Broadcasting] [Radio&Audio]

124 **BATES, A.W.** **Appropriate Teaching Functions for Television, Radio and Audio-cassettes in Open University Courses**

(Internal memo for Broadcast Sub-committee 1979 3 pages)

This up-dates paper 31, adding a small number of new functions, and in particular separating different functions for radio and audio cassettes. [Broadcasting] [Radio&Audio]

192 **BROWN, D. H.** **The Treatment of Broadcast Bids from the Faculties of Educational Studies by**

the Broadcast and Audio-Visual Sub-Committee

(Internal report, 1982, 14 pages)

This paper analyses the treatment of three bids for television production resources made by the Faculty of Educational Studies. It concludes that the treatment of these bids by the Broadcast and Audio-Visual Sub-committee was inconsistent and that discussions between the Faculty and the Sub-committee were needed if the bidding procedure was to function properly as an important stage in the course production process. [Broadcasting]

153 DICKINSON, R. **Television, Video and the Open University**

(*Times Educational Supplement*, June 1980)

This article outlines the broad aspects of the Open University's television transmission problem in the spring of 1980. It describes the recent moves to overcome the problem of an over-burdened timetable by introducing a national video cassette replay scheme with the help of other conventional educational institutions.

228 BROWN, S. **Video-cassettes versus Broadcasts**

(Teaching at a Distance, No. 25 1983)

Television is an expensive learning resource and it is becoming a scarce commodity in the Open University as more courses compete for a finite amount of transmission time. Whilst the potential importance of television in a distance teaching context is widely recognised among educators, Open University students appear to be less appreciative. At a time when the University is faced with significant cut-backs in expenditure, television needs to be made a more course-effective course component. This paper examines the educational and economic advantages of video-cassettes compared with broadcast television in Open University courses in the future. [Broadcasting] [Video]

165 BATES, A. W. **Should TD 342 distribute its TV programmes on video-cassette instead of broadcasting?**

(Internal memo, 1979 3 pages)

In response to a request from a course team, costs and a system of distribution, for transferring broadcasts to video-cassette are worked out, on the basis of students being issued with video-cassette machines on a rental basis, for

home use. Costs are shown to be extremely high per student. [Broadcasting] [Video]

93 GRUNDIN, H. **The Effect of Transmission Times on Students' Use of OU Broadcasts**

(Internal paper 1978)

This paper analyses in some technical detail how viewing rates are affected by transmission time allocated to radio and television programmes. Factors such as the number of programmes transmitted on a course and variations in time-slot combinations are studied. The paper also looks at differences between faculty viewing and listening figures and offers some suggestions as to how viewing and listening rates should be interpreted. [Broadcasting] [Radio&Audio] [StudentUsage]

186 GRUNDIN, H. **Factors Influencing Viewing and Listening Rates Among OU Undergraduates**

(Internal paper 1982)

The paper presents results of correlations and regression analysis carried out on data from the 1979 and 1980 AV Media Surveys (a total of 108 courses). It is shown that television and radio differ in that viewing is more influenced by the opportunities offered (number of transmissions and times) than is listening. One consequence of this is that TV repeats are not, in themselves, important as long as the level of viewing opportunity is high. Various indices of successful use of broadcasts are studied and it is shown that each of these indices can be valuable depending on the circumstances: (i) viewing/listening rate; (ii) helpfulness rating; and (iii) a new 'audience-attraction' index. An appendix gives these indices for all 108 courses surveyed in 1979-80. [StudentUsage] [Broadcasting] [Radio&Audio] [ResearchMethod]

(2) CHARACTERISTICS OF TELEVISION AND COURSE DESIGN

4 BATES, A. W. **Use of Broadcasts in "parallel" to Correspondence Texts**

(Internal memo 1971 5 pages
Circulation: Senior Producers and IET)

This paper discusses the planning implications for course design where television and radio are to be used together with other components. It emphasises the need to integrate broadcasts into a course of study and suggests how this may be achieved even where direct links between programmes and the correspondence text are absent or slight. (This issue is further discussed in Paper 77 in the light of a good deal more experience of

different models of integration). [Multi-media&CD] [Broadcasting] [Radio&Audio]

184 **BROWN D. H.** **Roles for Instructional Television**

(Presented at the conference on *Audio-visual Methods for Staff Training*, University of Keele 1981 14 pages)

Many people have to make decisions about when the use of instructional television would be appropriate. A review of the literature on this topic, and some of the early research suggests that although we can be confident that students can learn from television we are given little help in deciding when the medium should be used. The Open University's allocation of television to individual courses is shown to be based on a combination of pragmatism, experience, and data from programme evaluations rather than a general theory of instructional media. Fortunately some recent research does seem to give us hope that we will eventually understand more about the complex set of interactions which take place when visual media are used as part of the learning process. [Multi-media&CD] [Broadcasting]

243 **BATES, A. W.** **Using Video in Higher Education**

(*Fourth Austrian Science Fair*, Vienna, 1985 14 pages)

In this paper it is argued that television has unique teaching functions of immense significance to University education, and that new developments in technology enable many of the difficulties and weaknesses previously associated with broadcast television to be overcome. After making some general points about using media in education, the author suggests that there are important differences between television and other media in the way it presents knowledge, that these differences do have important pedagogic implications, and that delivery (and cost) factors must be taken into account when considering the possible role of television in higher education. [Video]

245 **BATES, A. W.** **Using Television in Distance Education - Video Pack**

(*International Council for Distance Education World Conference*, Melbourne 1985 17 pages)

This paper argues that television has a very important role to play in distance education courses. It outlines some of the unique roles that television can play and some of the problems in using it effectively with distance learners. It also examines how changes in delivery technology - video-cassettes, video discs, cable and satellite TV - affect its use and potential. The paper is written to stand alone, but it draws on examples which can be found in AVPACK4.

AVPACK4 TAYLOR, J. A. Using Television in Distance Learning

This video pack has evolved around Tony Bates' paper (245). Unfortunately, although the video-tape refers to accompanying notes, these notes were never written. Josie Taylor has compiled instead a video-pack consisting of an extended version of Paper No. 245, the video, and some relevant IET research papers. This pack is an interim version, as the PLUM group will be developing a new AV pack on television during 1991.

253 BATES, A. W. **Learning from Television**

(published in M. Thorpe, and D. Grugeon, Open Learning for Adults, Longmans, 1986, Chapter 16)

In this chapter, the author discusses the three main parameters governing the kinds of television available for open learning (distribution methods; utilisation and production) and outlines the unique characteristics of television. Subsequently he describes how television can be practically and economically harnessed into open learning.

AVPACK3 VARIOUS AUTHORS A Multi-Media Package on the Use of Television in Specific Faculty Areas (1977-79)

The AVMRG has produced a set of multi-media packages providing examples of specific educational uses of television in various subject areas. These consist of a set of extracts on video tape from OU programmes with a printed handbook analysing the abstracts, and providing activities. The handbooks produced are as follows:

BATES, A. W.	**Using Television in Mathematics (Tape and handbook)**
BROWN, D.	**Using Television in Faculty of Arts (Tape and handbook)**
DURBRIDGE, N.	**Using Television in Social Science and Educational Studies (Tape and handbook)**
GRUNDIN, H.	**Using Television in Science and Technology (Tape missing - handbook only)**

The PLUM group will be constructing a new AV Pack during 1991. For progress reports contact Josie Taylor (5965).

189 BATES, A. W. **Adults Learning From Television: The Open University Experience**

(in M. Howe, Learning From Television London: Academic Press 1983)

This article examines the role of television in adults' learning at the Open University, where learning is mainly independent, self-motivational and isolated. The educational characteristics of television are described, in terms of its distributional and social characteristics, its control characteristics and its symbolic characteristics. The research into the learning effectiveness of two kinds of programming - case-studies and reinforcement - is described and some of the conditions which influence learning effectiveness - delivery, relevance and individual differences in students - are explored.

(3) ANALYSIS OF TELEVISION

129 BATES, A. W. **An Outline Theoretical Framework for a Study of Learning from Television**

(Prepared as a bid to SSRC 1979)

This paper attempts to set out a theoretical framework for understanding how people learn through television. The first part of the framework sets out the organisational factors which appear to influence learning from television. The second part looks at the different processes of coding information and meaning which are found in different media, and argues the need to study how learners discriminate between, absorb and transform these coded meanings. [ResearchMethod]

167 BATES, A. W. **Towards a Better Theoretical Framework for Studying Learning from Educational Television**

(Developed from paper 129: *Instructional Science*, 9, 1980)

Drawing in particular on Open University experience, this paper attempts to set out a theoretical framework for understanding how people learn through television. The first part of the framework sets out the organisational factors which appear to influence learning from television. The second part looks at the different processes of coding information and meaning which are found in different media, and argues the need to study how learners discriminate between, absorb and transform these coded meanings. [ResearchMethod]

142 BATES, A. W. **Pacing of TV Programmes: Analysis (M231)**

(Internal memo 1980)

This memo is in answer to a query raised by Professor O. Penrose: 'Are mathematics programmes generally too fast in pace?' [Evaluation]

180 BATES, A. W. **Some Unique Characteristics of Television and Some Implications for Teaching and Learning**

(*Journal of Educational Television and Other Media*, Vol. 8, No. 1, 1981)

This mainly theoretical paper examines how television differs from other media in the teaching role, and the implications for learners. It notes three characteristics of television: distribution/access; control characteristics; and symbolic (or audio-visual) characteristics. The paper examines how changes in control characteristics (e.g. broadcast vs recording) affects the learning situation. The main part of the paper though examines the symbolic characteristics of television. It argues that television plays different but complementary roles for teaching and learning, by representing knowledge in unique ways and by developing specific mental skills.

180a BATES, A. W. **Roles and Characteristics of Television and Some Implications for Distance Learning**

(*Distance Education*, May 1982)

This is a slightly revised version of paper 180 but has a different reference list, and an appendix which lists all the appropriate uses for television in the various faculties.

199 BATES, A. W. **Research into Learning from Television: A Position Paper**

(Internal report 1982)

This paper was prepared for a meeting to discuss the possibility of a joint research proposal into learning from television. It suggests some priorities for research, what the main theoretical issues are, and what methods and resources might be needed to conduct the research. [ResearchMethod]

216 BLISS, J., GOATER, M. JONES, C., & BATES, A. W. **Piaget's Theories and Some Possible Implications for Educational Television**

(*Journal of Educational Television*, Vol. 9 No.1 1983 - pp 33-46)

This article discusses the extent to which Piaget's theories of thinking and mental development might have relevance for the production of educational programmes. Joan Bliss summarises and discusses the main points of Piaget's theories, and Michael Goater and Christopher Jones provide their own critical analysis of the implication of those theories for television production. Tony Bates concludes that, while there are some major difficulties in making the jump from Piaget's more general theories to specific television practice, the exercise does raise some fundamental questions about the relationship between television and the development of thinking. [ResearchMethod]

225 SALOMON, G. **Using Television as a Unique Teaching Resource for OU courses: Comments on some TV programmes designed for D102 and M101**

(Internal paper 1983 12 pages)

Considering the cost of TV programmes, the author suggests that it is reasonable to let them do what they do best - visually illustrate, dramatise, concretise and supplant dynamic images without which certain abstract concepts cannot be well understood. Focusing on three (relatively) unique potentialities of TV (illustration, dramatisation and supplantation) and using the programmes for D102 and M101 as examples, the author discusses the importance of helping the student to abstract out of visual information the particular messages which were intended. [StudentUsage] [Evaluation] [ResearchMethod]

227 BATES, A. W. **The Relationship between Programme Style and Structure and Learning from Television**

(Prepared as a joint OU/BBC OUPC/BBC Schools/TELEAC Foundation Research Proposal on Learning from Television 1983)

This paper aims to (i) define the terms "structure" and "style" with regard to broadcast educational television; (ii) identify a number of different styles and structures commonly associated with broadcast educational television programmes; (iii) investigate the relationship between the styles and structures of broadcast television and learning outcomes; (iv) identify other key factors which intervene or affect the relationship between style, structure and learning outcomes in broadcast educational television.

240 **BATES, A. W.** **Using Television in Schools: Some Suggestions for Teachers**

(*Times Educational Supplement*, January 1985)

This paper argues that for television to be used effectively in schools, teachers need to reorganise their teaching to increase the children's interaction with the programme material. Four different ways in which this can be done are suggested.

262 **BATES, A. W.** **Television, Learning and Distance Education**

(*International Council for Distance Education Bulletin*, Vol. 16, 1988 - text of inaugural lecture delivered at the Open University 29 May 1987)

In the introduction to this paper, Professor Bates outlines the main thesis he goes on to defend using extracts from Open University television programmes: 'Television is an important, perhaps even necessary, ingredient of high-quality open and distance education, but only when it exploits fully its unique teaching characteristics. Secondly, the effectiveness of television depends to some extent on how the material is structured and to some extent on the technology available to students.'

266 **BATES, A. W.** **Learning from Television**

(Conference on *The Educational Challenge: New Technologies in Teaching in Higher Education*, Dublin, 1987)

This is the text of a conference presentation in which the author refers to video-taped examples illustrating television's unique educational characteristics.

65 **BATES, A. W. & ROBINSON, J.** **Evaluating Educational Television and Radio**

(OU Press 1976, available from OUEE, Open University)

This book brings together over 80 papers, and the main plenary presentations, of the first international conference on the evaluation of educational television and radio. There were participants from nearly 30 different countries, and the book contains papers from most of the leaders in the field, with an introduction by Wilbur Schramm. The papers are organised in four

main sections: children's and schools' broadcasting; non-formal adult education; university and colleges; and the organisational context. [ResearchMethod] [Radio&Audio]

118 **BROWN, D. H.** **Developmentally Testing the Television Component**

(*Journal of Educational Television* Vol. 5, No 1, 1979 3 pages)

This paper is a summary of a follow-up study (paper 89) which gauged the reactions of an Open University Course Team to the developmental testing of the broadcast element of their course. The particular problems encountered in modifying the television component are identified and the paper concludes by suggesting the conditions which appear to be necessary for the broadcast component of an Open University course to be fully developmentally tested, and if necessary, modified. [Broadcasting] [ResearchMethod]

229 **LAURILLARD, D.** **The Phenomena of Learning from Television**

(1983 28 pages + appendices)

This paper is a report of a research study on how students learn from television. The overall aim is to describe the process in terms of the dominant factors and the relationships between them. Broadly this means attempting to relate programme design to learning process and learning outcome. Emphasising the propaedeutic nature of this research, the author investigates why many students fail to (a) understand the main point(s) of a television programme and (b) understand key sequences, and integrate those key sequences with the main point(s). This is achieved by contrasting the kinds of structure which students abstract from a programme with those provided by the producer and academic who made the programme. The author concludes that the total amount of time in a programme devoted to the main point(s) together with their evidence or exemplification is an important factor in discriminating between programmes that are highly successful at communicating their main points, and those that are less so, and that individual student learning characteristics do not appear to account for students' misunderstanding or misinterpretation of a programme. [ResearchMethod]

(4) USING TELEVISION

28 **BATES, A. W.** **Problems of Learning from Television at a Distance**

(Conference on *Frontiers in Education* London: Institute of Electrical Engineers, 1974 6 pages)

Television at the Open University is used in a planned way with other media such as correspondence texts. This paper discusses how research at the University is used to identify and suggest solutions to a number of problems related to its usage, and in particular how a study of the nature and function of broadcasts allows us to test assumptions about the way students react to them and to suggest possible ways of improving their value.
[ResearchMethod] [StudentUsage] [Broadcasting]

91 GALLAGHER, M. **Good Television and Good Teaching: Some Tensions in Educational Practice**

(*Educational Broadcasting*, 1978, Vol. 11 No. 3 8 pages)

This paper argues that the Open University since its inception has not developed a distinctive style of teaching by television, and that the pedagogic functions of the medium have not been explored and improved as much as other teaching components. The argument hinges on a distinction drawn between 'good television' (i.e. technically sophisticated and 'interesting' programmes) and 'good television in the educational context'. The discussion is illustrated by references to 'documentary style' programmes in particular; it is suggested for example, that students may need assistance, preferably within such programmes, if these are to achieve their pedagogical objectives.
[Broadcasting] [StudentUsage]

119 BROWN, D. H. **Helping Students to Learn Through Television and Radio**

(*Visual Education*, Sept. 1979 2 pages)

Several research projects have demonstrated that not all Open University students possess the skills necessary to make full use of the radio and television components of their courses. Partly as a result of this research evidence a decision was made to produce a package of materials to help students develop these skills. This paper is a report of the development of these materials by people from throughout the Open University, including Producers from the BBC/Open University Production Centre.
[Broadcasting] [StudentUsage] [Radio&Audio]

AVPACK1 VARIOUS AUTHORS **Learning from Television: A Study Package (1981)**

The reasons behind the development of these materials for use by students and staff of the Open University are outlined in paper 119. The package consists of a handbook together with supporting video-cassette containing extracts from Open University television programmes. These materials

illustrate the different responses which the varied programme formats demand from users. [Broadcasting] [StudentUsage]

176 DURBRIDGE, N. **The Adult Learner and Educational Television**

(Internal paper, 1981, 10 pages)

The use of educational television requires special skills in both teachers and students. The experience and research results of the Open University are used as a basis to discuss some of the problems associated with learning from television, and the paper outlines the origins and implications of a package of learning materials, developed and designed by the Open University to try and overcome these problems. [StudentUsage]

77 BATES, A.W. & GALLAGHER, M. **Improving the Effectiveness of Open University Television Case-Studies and Documentaries**

(Internal memo 1977 40 pages)

This paper brings together the results from a number of evaluations of television programmes in different faculties which have adopted a "case-study" or documentary style. The paper raises questions about the meaning of these terms in the Open University context, and defines five different dimensions along each of which such programmes can vary. Thus there is a great variety of documentary-type programmes. The paper argues that course teams should deliberately choose what kind of documentary they want, based on pedagogical grounds, but that usually these decisions are made by producers largely on technical grounds. The paper suggests various ways in which greater academic control could be exercised over such programmes. [Broadcasting] [Video]

193 BROWN, D. H. **Just One Version of Reality: Using Television Case-Studies in University Courses**

(Internal paper 1983)

The British Open University uses television as part of its multi-media distance learning system and case-study programmes, resembling the documentaries of general service television, are used by many under-graduate courses. Although these television case-studies are popular with students, evaluations have shown that many are unable to make full use of them - failing to experience the learning process the programme makers intended. This paper is concerned with the teaching purposes which lie behind the use of television case-studies; the difficulties students encounter when trying to achieve the learning objectives these programmes set; and ways in which case-study programmes might be structured to increase the

likelihood that students will find them a valuable learning resource. It concludes that we must stop thinking of television case-studies as documentaries for a specialised audience, emphasise their status as only one construction of reality, and pay far more attention to the process through which reality is encoded by the programme makers and decoded by the students.

62 GALLAGHER, M. **Preliminary Report on 50 minute TV Programmes**

(Internal Report 1976 5 pages)

This paper is a study of implications for students in transmitting double-length television programmes. At the time of writing this report available data was limited to one social science programme, as 50 minute programmes were a new venture for Open University broadcasting. A questionnaire was sent to a sample of students taking the Patterns of Inequality course concerned and while the results are not claimed to be generalizable to the content of other 50 minute programmes, a number of practical problems emerged. [Broadcasting]

P3 LAURILLARD, D. **Mediating the Message: Programme Design and Students' Understanding**

(To be published in *Instructional Science* 1991)

The research reported aims to describe some aspects of how students learn from television programmes. It was based on observation, interview and test data from five groups of 20-30 Open University students, each watching a social science television programme as part of their course. A qualitative analysis of students' summaries of the programmes showed that only half achieved the intended learning outcomes. A further analysis of the students' responses to key extracts showed that this is more likely to be because of programme structure than because of presentational quality. The research design and results are related to similar studies on students learning from text, and contrasted with the methodology adopted in other studies of the effects of educational television. [ResearchMethod] [StudentUsage]

VIDEO

SUB-SECTIONS:

(1) Video and Broadcast Television
(1a)Broadcast and Video Access Backup Schemes

(2) Characteristics of Video and Course Design
(3) Analysis of Video
(4) Using Video

Increasing pressure on suitable transmission times, and the reduction in available resources, has contributed to the development of video material in Open University courses. (For information on transmission times see **[Broadcasting]**. But what role video material should play within a course has been a matter of some debate - for example, distinctions between different kinds of format for video programmes, student access to video-cassette recorders, and how students react to the material are some of the issues covered in these abstracts.

(1) VIDEO AND BROADCAST TELEVISION

228 **BROWN, S.** **Video-cassettes versus Broadcasts: Teaching at a Distance, No. 25**

(1983 14 pages)

Television is an expensive learning resource and it is becoming a scarce commodity in the Open University as more courses compete for a finite amount of transmission time. Whilst the potential importance of television in a distance teaching context is widely recognised among educators, Open University students appear to be less appreciative. At a time when the University is faced with significant cut-backs in expenditure, television needs to be made a more course-effective course component. This paper examines the educational and economic advantages of video-cassettes compared with broadcast television in Open University courses in the future. [Broadcasting] [TV]

165 **BATES, A. W.** **Should TD 342 distribute its TV programmes on video-cassette instead of broadcasting?**

(Internal memo, 1979 3 pages)

In response to a request from a course team, costs and a system of distribution, for transferring broadcasts to video-cassette are worked out, on the basis of students being issued with video-cassette machines on a rental basis, for home use. Costs are shown to be extremely high per student. [Broadcasting] [TV]

(1a) BROADCAST AND VIDEO ACCESS BACKUP SCHEMES

24 **BATES, A.W.** **Video Cassettes at the Open University**

(in J. Leedham, J. and A. Romiszowski, (eds.) Video Cassettes in Education and Training, London: Kegan Paul, 1974 10 pages)

This paper offers a personal account of the situation in 1973 with regard to the use of video-cassettes at Study Centres. In 1970, using super 8 mm film cassettes, a scheme provided viewing facilities for course programmes at each of the then 250 study centres; it was reportedly unsuccessful for financial, administrative and technical reasons. In 1973 Bates recommended a decentralised video replay system to allow for greater flexibility, but a number of regional objections were raised against this proposal. A number of conclusions are drawn from this experience to highlight the problems which need to be solved before a viable VCR system may operate in the regions.

35 **GALLAGHER, M. & MARSHALL, J.** **Video Cassette Recorder Project**

(Internal report 1974 123 pages)

This paper describes in detail an experimental arrangement, whereby six study centres were provided with video-cassette recording equipment in 1974. It also mentions the VCR service to study centres unable to receive BBC2 and the audio cassette service to students. Among the conclusions drawn from the study it is stated that the use of VCR's by students in study centres is practicable in terms of demand and of operability and that the cheapest and most practical system would involve a centrally controlled library service. The positive attitudes of students to the system are discussed as well as the relative merits of available video cassette recorder equipment.

40 **MARSHALL J. & GALLAGHER, M.** **A Cassette Replay Service for Students?**

(*Teaching at a Distance* Vol. No. 3, 1975)

The limitation of air time makes it difficult for some students to receive broadcasts and the University therefore sought advice on whether it should provide students with alternative means of access to broadcast material. This paper describes a project set up to investigate the demand for and viability of

installing VCR equipment at study centres, and concludes that if no replay facilities are made available that viewing and listening rates will fall and that broadcast material would necessarily play a more peripheral role within the OU system.

(Paper 35 provides a detailed account of the Video Cassette Recorder project and this paper is a briefer version of that report).

41 **GALLAGHER, M. & MARSHALL, J.** **Broadcasting and the Need for Replay Facilities at the Open University**

(*British Journal of Educational Technology* No. 3, Vol. 6, 1975)

This paper describes the project set up to investigate the demand and viability (both economic and operational) of installing video cassette recording equipment at Open University Study Centres. The role of broadcasting as an integral component of the University's teaching system, it is argued, needs to be weighed against the heavy commitment of resources to such a scheme. Papers 35 and 40 also describe the project and the researchers' conclusions. [Broadcasting]

55 **GALLAGHER, M. & MARSHALL, J.** **Report of VCR Steering Group on Audio-Visual Replay Provision to Students and Report on VCR Project 1974-5**

(Internal paper 1976)

This report describes the educational, operational and cost implications for the installation of a replay service to students by means of a video-cartridge system. The findings of an initial project backed up by a two year feasibility study are discussed and lead to the recommendation that such a service should become operational from 1977.

128 **MARTIN, J. et al.** **VCR Working Group: Final Report**

(Internal report to Planning Board 1979)

This is a report of an independent working group set up by Planning Board to re-evaluate the evidence for the need for a video replay scheme in study centres, as a back-up to off-air transmission. The report confirms the increasing imbalance between production and transmission, examines 51 possible solutions, but finally recommends a video replay scheme based on co-operative arrangements with other institutions, at an annual cost of approximately £150,000 per annum. The report contains detailed organisational and cost analyses for three different ways of organising a video replay service. [Broadcasting]

150 DICKINSON, R. **Summary of an Evaluation of the Use of Video-Cassette Machines in the Regions, January 1979-June 1980**

(Internal report on an IRDC funded project, 1980 6 pages)

In April 1979 the Institutional Research and Development Committee of the Open University granted the Audio-Visual Media Research Group £4692 towards the costs of directing and advising the Regions in their evaluation of three experimental video-recordings and playback schemes which had been in operation since the beginning of the year. This project summarizes and analyses the results of the evaluations of these schemes as they operated throughout 1979 and the Spring of 1980.

SRC5 KIRKWOOD, A. **Access to Video Equipment for Study Purposes - Undergraduate Students in 1986**

(Findings from the Costs/Access survey 1986, internal report 1987)

At the end of 1986 a survey of new and continuing undergraduate students was undertaken on the related issues of 'costs of studying and access to equipment for study purposes'. Questionnaires were sent to a sample of 2,400 students (1,200 students taking their first O.U. course and 1,200 continuing students). This report presents an analysis of students responses to the four questions on the questionnaire concerned with students' access to T.V. and video facilities for study purposes. Seventy-seven per cent of undergraduate students had access of some kind to video equipment for study purposes, 60% had access in their home. Eighty-four per cent of machines are of VHS format. Twenty-six per cent of students without home access indicated that they might be willing to rent or buy a video-cassette machine if the OU provided video material for course work. Some potentially important variations in patterns of access are revealed when the survey data is analysed in relation to demographic and other data. [Broadcasting]

SRC 26 CROOKS, B. & KIRKWOOD, A. **VCR Access and Television Viewing Rates -Undergraduate Students in 1988**

(Student Research Centre Report, 1989)

In November 1988 a survey described as the Access to New Technologies (ANTS) survey of undergraduate students was undertaken to gather information on student access to two new media - video-cassettes and the home computer - in order to help the development of University policy in the use of these media. This was the primary aim of the survey but the opportunity was taken to include a group of questions about television

viewing by three means: broadcast transmission, home recording on video-cassette machines and use of the broadcast loan scheme. This report presents an analysis of student responses to the questions on access to video-cassette recorders and television viewing. [Broadcasting]

196 **BROWN, S., & GRUNDIN, H.** **The 1982 Video-Cassette Loan Service Interim Evaluation Report, May 1982**

(Internal report 1982)

In 1982, a Video-Cassette Loan Service was established as a one year experiment to substitute for the loss of repeat transmissions on 37 post-foundation level courses, and the loss of prime transmissions on foundation courses. The post foundation level students were able to borrow video-cassettes of their programmes by mail order from Walton Hall and to replay them on video-cassette machines provided regionally. Arrangements for using the foundation course programme cassettes varied regionally. The service was evaluated during 1982 to assess its effectiveness. For an interim report after the first eleven weeks of operation the evaluators looked at the use made of the service by students and others, student attitudes towards the service and the ability of the Audio Visual Department to meet the demand for cassettes. A more comprehensive report will be produced at the end of the year.

215 **BROWN, S.** **The 1982 Video-Cassette Loan Service: A Report of the First Year of Operation - Appendices**

(Internal report 1983)

The Video-Cassette Loan Service was established in 1982 as a one year experiment to supply VHS copies of television programmes on 37 courses by mail order to students. The findings at the end of the year show that the Service functioned as intended. The total output of cassettes was 80% of the maximum estimated demand and the most of it (77%) consisted of student requests for priority course programmes and foundation course cassettes for Regional Offices. Most students observed the rules for borrowing and returning cassettes. The average return time for student loans was four and a half weeks, compared with the four week loan period allowed and only 0.2% of student borrowers did not return cassettes. Generally students were pleased with the efficiency and quality of the loans system. Students' requests were met within three days of receipt on average, despite operational difficulties in the Audio Visual Department. Nevertheless, the Loan Service had a positive educational impact which resulted in significantly increased viewing rates for priority course programmes, more active and responsive programme study habits among cassette viewers, enhanced perceptions of the helpfulness of the programmes concerned and claims of greater understanding of the material taught. In other words, the Loan Service was highly successful, both operationally and educationally, as a substitute for

repeat broadcasts. Given the very poor effectiveness of broadcast television the University cannot afford not to continue and expand the Service in order to maximise the returns on the investment made in the production of television programmes.

234 **GRUNDIN, H.** **The Video-Cassette Loan Service: Analysis of Student Use in 1983**

(Internal paper 1984)

In 1982 the Video-Cassette Loan Service (VCLS) was the subject of an extensive evaluation by Stephen Brown (IET paper no. 215). His conclusion was that the VCLS provided a valuable supplement to television broadcasting. In 1983 the resources of the AVMRG did not allow any collection of feedback regarding the VCLS directly from students. However, a small grant from IRFSC permitted an analysis of the information available on the request cards sent in by students to the VCLS. Compared to 1982 there was a slight increase in the number of VCLS requests per user: from 3.5 to 3.9. There was also a considerable increase in the proportion of students using the service: from 12% in 1982 to 17% in 1983. This paper breaks these figures down and discusses the economics of the VCLS.

291 **BATES, A. W. (et al.)** **Recommendations for a New Broadcast Loan Scheme**

(Internal paper, BAVSC, 13 pages)

The BAVSC Working Group point out that the previous loan scheme was both needed, and cost-effective. The loan scheme was needed primarily to help guarantee delivery of essential course materials, and that this was a cost that in principle ought to be carried by the University and not the student. The proposals outlined in this report, nevertheless, halve the costs falling on central funds for the provision of this service. [Broadcasting]

P5 **CROOKS, B.** **Review of Re-Introduction of Broadcast Loan Scheme**

(BAVSC/30/10 1990 9 pages)

The Open University has operated a Broadcast Loan Scheme (formerly called the Video-cassette Loan Scheme) for about 10 years. In order to conduct a review of its operation and make recommendations for future policy, evidence concerning the access of various groups of students to television transmissions was considered. It was proposed that the new scheme be focussed on (a) remote students and (b) individual programmes. [Broadcasting]

P6 **CROOKS, B.** **Use of Video-cassettes: Issues of access, relative roles of broadcast and video-**

cassette programmes and raising awareness of new possibilities

(BAVSC/32/2 1990 11 pages)

Background information was considered concerning: access of students to VCR's, the changing viewing, recording and study patterns of students, existing video backup schemes, current use by Course Teams of television designed for use on video-cassettes in OU courses and the educational opportunities for design of television material intended for use with VCR's. Recommendations were made relating to the introduction of a Video Access Policy (that is, a group of courses where access to a TV and VCR will be assumed). [Broadcasting]

(2) CHARACTERISTICS OF VIDEO AND COURSE DESIGN

8 **BATES, A. W.** **The Role of the Teacher in a Video-teaching System**

(*Audio-Video Conference*, Vichy, France UNESCO, 1972)

This paper concentrates on the role of the teacher in multi-media courses which are centrally designed. It draws largely on the Open University experience for illustration. Some problems of course design are described, and five functions of educational television suggested. The main emphasis of the paper is upon the implications of using a multi-media system for its teaching staff, both for the producer/designers of the materials, and for the intermediaries (tutors) who have direct student contact. Teaching functions and training needs are discussed along with such issues as teacher autonomy and political vulnerability. [Multi-media&CD]

222 **DURBRIDGE, N.** **Design Implications of Audio and Video-Cassettes**

(1983 37 pages)

A paper presented as a talk to Norwegian Correspondence Schools on the use of audio and video-cassettes in distance teaching. The first section discusses the characteristics of audio-cassettes, and gives examples of how these may be exploited in an educational context. The second section focuses on video-cassettes. One example of an OU video provides the basis for a discussion of differences between two kinds of video user-groups and individuals. Two clear routes for future videos are noted. Finally, the paper comments upon some major differences between audio and video-cassettes and their implication for education. (See also papers 220 and 221 in Course Design & Media.) [Radio&Audio] [Multi-media&CD]

243 **BATES, A. W.** **Using Video in Higher Education**

(*Fourth Austrian Science Fair*, Vienna, 1985 14 pages)

In this paper it is argued that television has unique teaching functions of immense significance to University education, and that new developments in technology enable many of the difficulties and weaknesses previously associated with broadcast television to be overcome. After making some general points about using media in education, the author suggests that there are important differences between television and other media in the way it presents knowledge, that these differences do have important pedagogic implications, and that delivery (and cost) factors must be taken into account when considering the possible role of television in higher education. [TV]

SRC 22 **CROOKS, B., & KIRKWOOD, A.** **Video-Cassettes by Design in Open University Courses**

(*Open Learning*, Vol. 3, No. 3, 1988; TCC Report No. 45)

Why do students feel that television material on video-cassette is better than broadcast television? Some of the reasons are to do with the fact that simply distributing television material on video-cassette removes many of the constraints of broadcast programmes, such as inconvenient transmission times. However, other resaons are concerned with new teaching and learning opportunities that are opened up when television material is designed for use on video-cassette from the start. Video-cassettes can perform all the educational functions of broadcast television and can achieve some of them more effectively due to the additional control the learner can exert by stopping, restarting and replaying the material. What design features of video-cassettes enhance students' control of the material and does such control facilitate improvements in learning? These questions and issues are discussed below in an attempt to identify a distinctive educational role for video-cassettes.

SRC36 **KIRKWOOD, A.** **Into the Video Age: Open University Television in the 1990's**

(*Journal of Educational Television*, Vol 16, No. 2, 1990 pp 77-85)

Significant changes in the nature of Open University television productions will occur in the 19[illegible] as a result of the high level of access to video equipment among the University's students. A very large proportion of course programmes are already recorded off-air by students for subsequent viewing, but additional educational benefits can be achieved if programmes are designed from the outset to give learners greater opportunities to control and interact with the material. Although there remains the need to ensure

that all students can gain access to the television material (either by transmission or direct mail of video-cassettes), courses will be able to design video format programmes to fulfil important educational functions that cannot be achieved by any other means in a distance teaching context. [Broadcasting]

P4 CROOKS, B. **The Potential of Non-Broadcast Television Technologies for Learning and the Implications for Educational Television Design and Research**

(Tel-Aviv Seminar on *ETV Broadcasting Research in the Nineties* sponsored by the European Broadcasting Union, Tel Aviv, Israel, March 1990 9 pages)

The teaching potential of video-cassettes and video-discs are reviewed, together with an indication when mass access is likely to rival that of broadcast television. Since the immediate challenge is presented by video-cassettes, the implications that the characteristics of this technology have for television design are explored. The changes to broadcast educational television that are likely to result from the impact of the video-cassette medium within the next decade are explored by means of a brief scenario. [Multi-media&CD] [Broadcasting] [InteractiveVideo]

(3) ANALYSIS OF VIDEO

77 BATES, A.W. & GALLAGHER, M. **Improving the Effectiveness of Open University Television Case-Studies and Documentaries**

(Internal memo 1977 40 pages)

This paper brings together the results from a number of evaluations of television programmes in different faculties which have adopted a "case-study" or documentary style. The paper raises questions about the meaning of these terms in the Open University context, and defines five different dimensions along each of which such programmes can vary. Thus there is a great variety of documentary-type programmes. The paper argues that course teams should deliberately choose what kind of documentary they want, based on pedagogical grounds, but that usually these decisions are made by producers largely on technical grounds. The paper suggests various ways in which greater academic control could be exercised over such programmes. [Broadcasting] [TV]

122 BATES, A. W. **The Utility of Experimental Research in Video-taped Instruction**

(in J. Baggaley (ed.) Experimental Research in Instructional Television, St Johns Memorial University, 1980)

This paper questions the validity of the laboratory-based, controlled experimental research method for investigating the effectiveness of video-taped instruction. It points to a number of weaknesses inherent in the method, and draws on presentations from the seminar to illustrate these difficulties. [ResearchMethod]

242 BATES, A. W. **W(h)ither Video? What future does video have in schools?**

(*Times Educational Supplement*, May 1985)

In this article the author argues that DTI funding would be better spent equipping schools with basic video equipment rather than in promoting video-disc technology in schools. [InteractiveVideo]

(4) USING VIDEO

208 DURBRIDGE, N. **Real-Life Film on Video: A Case Study of Video Cassette Usage on EM235 Developing Mathematical Thinking**

(Internal paper 1982 20 pages)

This paper describes the use of video on EM235 from the design perspective, and discusses students' responses and attitudes to the medium and to the particular teaching strategies underlying EM235 video structure. The paper contains some very helpful and thought provoking comments for readers thinking of making use of video material in courses. [Evaluation] [StudentUsage]

240a BATES, A. W. **Splitting Image: The Changing Role of Television in Education**

(*Times Educational Supplement*, April 1984)

In this article the author addresses the question: Do we need broadcasting now we have cassettes? In the context of educational television both in schools and in adult education, suggestions are offered as to how teachers can best use video-cassettes for teaching. The availability of video-cassettes has led to greater use of television in education, but such usage has clearly revealed the educational weaknesses of broadcast television. Programme makers need to consider production styles which exploit cassette characteristics in order to capitalise on this form of use. [Broadcasting]

210 DURBRIDGE, N. **Developing the Use of Video Cassettes in The Open University**

(Internal paper 1982 25 pages. TCC paper No. 6. A later version of this paper published in O. Zuber-Skerritt (ed.) Video in Higher Education, Kogan Page, 1984)

This paper presents an account of a two-phased development in the use of video at the Open University. It describes the context in which its students learn and the way they are currently accessed to video. It describes how in the first instance students are working with video-cassette material also available via television broadcasts; the second phase of development involves videos designed to exploit the medium itself. The chapter explains how the University's experience with television and audio-cassettes provide a basis for such future video design. Finally, a case study illustrates one format already in use and students' responses to it.

SRC17 TOMPKINS, K. & CROOKS, B. **A Review of the Extent and Pattern of Use of Video-Cassettes in the Undergraduate Programme and the Continuing Education Area 1988**

(Internal Report 1988)

This document is a review of the extent and pattern of use of video-cassettes in the Undergraduate Programme and the Continuing Education Area of the Open University in 1988. It is intended to provide background information for the current review of the University's policy on the role of broadcasting and audio-visual material. The first section of the report defines what is meant by video-cassette material. The following two sections present an analysis of the overall pattern of video-cassette use; the methods of distribution of video-cassette material, the conditions under which video-cassettes are used by students; the quantity of video-cassettes produced by different production centres and the total of hours of viewing material available by both broadcast and video-cassette for both the Undergraduate Programme and the Continuing Education Area. The last section consists of a summary of findings and a discussion of the comparision of video-cassette use in these two areas. Finally there are recommendations concerning the University's policy towards video-cassette production in the Undergraduate Programme. [Broadcasting] [StudentUsage]

SRC23 TOMPKINS, K. **A Bibiliography of the Use of Video-Cassettes as a Teaching Medium in Higher Education**

(Internal report, 1988)

This bibliography lists over 1100 titles on the subject of video in higher education stretching back to 1979. The two appendices give an alphabetical list of the authors and the journals in which the articles were found.

TEXT

SUB-SECTIONS:

(1) Design and Use of Broadcast notes
(2) Text processing
(3) Design and Use of Texts in Distance Education

As the Audio-Visual Media Research Group focussed its research on AV media (not unnaturally!) this file on text research is not so well-developed as some of the other media files.

However, there are people in IET whose special interest is text, and interested readers are advised to contact them directly. Half-day workshops are available to help with text design - contact Micheal MacDonald-Ross (3372) for details.

(1) DESIGN AND USE OF BROADCAST NOTES

33 **RILEY, J.** **Helping Course Teams with Broadcasts**

(Internal memo + appendices 1975)

This paper focuses on the impression that students are not using broadcasts as efficiently as possible, in particular that they do not treat programmes as they would texts, as needing serious concentration and effort, and that they do not integrate what they learn from broadcasts with their study of other parts of their courses. The paper presents three ideas which may go some way to resolve this problem: broadcast summaries, broadcast notes and special TV programmes which directly address the use of broadcasting in courses. [Broadcasting]

69 **KERN, L.** **Using Broadcast Notes in Distance Teaching**

(Internal paper 1976)

This paper argues that broadcast notes can play a valuable organisational role at the Open University in helping students to use their programmes more effectively. A number of suggestions are made as to content and layout, the particular emphasis being on the need for notes to include advice on preparation and re-inforcement activities as well as a brief record of programmes. [Broadcasting] [StudentUsage]

70 VARIOUS AUTHORS **Classification and Examples of Open University Broadcast Notes**

(Internal document 1977)

This is a collection of examples of Open University broadcast notes illustrating some of the styles of presentation employed by course teams.

241a DURBRIDGE, N. **Broadcasting, Broadcast Notes and Unit Integration**

Internal memo 1985

In this short memorandum (complete with examples) the author outlines a proposal to help students identify and explore links between broadcasts and and their unit reading. The memo outlines a model, and illustrates the model which was finally adopted by the A102 course team.

(2) TEXT PROCESSING

278 WALLER, R., & WHALLEY, P. **The Processing of Graphically Organised Prose**

(in de Corte, E., Lodewijks, H., Parmentier, R., and Span, P. (eds.) Studia Paedigogica - Learning and Instruction, Leuven University Press & Pergamon Press, 1987)

Comparative/contrastive arguments can be displayed separately (one complete argument followed by another) or in an integrated way (with the various aspects interleaved). A previous study showed that each arrangement has merits, depending on the readers' prior knowledge and task. This study compares a third arrangement - a graphic format - which it was thought might be equally suitable for a range of reading purposes. The results indicate that the graphic arrangement had a significant effect on the ability of students to produce an integrated explanation of competing arguments.

(3) DESIGN AND USE OF TEXTS IN DISTANCE EDUCATION

22 ROWNTREE, D. **Student Exercises in Correspondence Texts**

(Internal paper 1973)

These notes and exhibits are meant simply to: (a) alert colleagues to the virtues of building questions and exercises into the course material, and (b) indicate, with pages from OU correspondence texts something of the variety of exercises that is possible.

34 ROWNTREE, D. **Two Styles of Communication and their Implications for Learning**

(in J. Baggaley, G. Jamieson & H. Marchant (eds.), Aspects of Educational Technology VIII London, Pitman, 1975)

The author distinguishes between one-way and two-way communication, suggesting that the former's predominance in education, being manipulative rather than facilitative, is deleterious to learning and that two-way communication should be pursued instead. He indicates how two-way communication depends on feedback being able to assume special potency and he outlines the pedagogic paradigm most likely to allow this: some of the far-reaching implications for choice of learning objectives and strategies and for use of communication media are then examined, the difficulties of implementing a student-directed, individualized education are indicated, and a newly-emerging role for the educational technologist is defined.

61 MACDONALD-ROSS, M. **Language in Texts**

(in L. S. Shulman (ed.) Review of Research in Education 6, 1978, Peacock Inc., Illinois)

This extensive review surveys the field of literature relevant to the design of printed curriculum materials. The first part considers ways and means of analyzing texts, and examines such issues as readability measures, quantitative content analysis, linguistic analysis and qualitative analysis. The second part of the review is devoted to experimental studies and instructional texts, including discussion of the use of behavioural objectives, advance organizers, adjunct questions and mathemagenics, the use of feedback, and research on substantive discourse. In conclusion, the author states that text research during the past ten years has reinforced the standard procedures of curriculum design but has not transformed it. All too often research has failed to be useful in practice (being unable to specify how-to, and when-to/when-not-to information) and also has failed to be interesting as theory. The theoretical issue which is starting to bear fruit is the representation of cognitive strategies, and the flowering of cognitive theory presents an exciting prospect for the future.

298 WALLER, R. **The Design of Print Media (Unit 23)**

(Open University Course EH207: *Education*, Block 7: *Literacy and the print media*, 1987)

This unit focusses on the medium that dominates education - print. The range of printed material used in education is too wide to identify a characteristic style for discussion. Educational publishers borrow techniques from many different genres - for example, posters, paperbacks, illustrated books, newspapers and magazines - so the author discusses print in general terms, making connections with the educational context from time to time. The author considers (a) graphic characteristics of the print medium; (b) illustrations and diagrams and (c) typography.

299 WALLER, R. **The Typographic Contribution to Language: Towards a model of typographic genres and their underlying structures**

(Ph.D. Thesis, University of Reading 1988)

This thesis presents a model which accounts for variations in typographic form. The model attempts to articulate the tacit knowledge of expert practitioners and relate it to current multi-disciplinary approaches to discourse. Aspects of typography are tested against a range of 'design features' of language. A dichotomy emerges between a linear model of written language in which a relatively discreet typography 'scores' or notates the reading process for compliant readers, and a diagrammatic typography in which some concept relations are mapped more or less directly on the page for access by self-directed readers. Typography is thus most easily accounted for in terms of reader-writer relations, with an added complication imposed by the physical nature of the text as artefact: line, column and page boundaries are mostly arbitrary in linerar texts, but often meaningful in diagrammatic ones. Readers short of time may like to consult Chapter 5 (Communication models) before reading the entire thesis.

TCC40 LOCKWOOD, F. **Activities in Distance Teaching Texts: Author's assumptions and expectations contrasted with students' perceptions and use**

(A later version of this paper published as 'A Course Developer in Action - A Reassessment of Activities in Texts' in M. S. Parer (ed.), Development, Design and Distance Education, Institute of Advanced Education, Victoria, Australia, 1989)

Persuasive arguments, designed to encourage authors to integrate questions into distance learning materials have been repeatedly employed by educational technologists. However, there is a distinct lack of evidence to confirm that authors' espoused theories match their 'theories in use', that

students' perception and use of activities in text match the assumptions and expectations of authors and that the research evidence used to support current practice is valid.

P10 DURBRIDGE, N. **Considerations and Recommendations for Textual Design in Arts Faculty Courses**

(Internal memos 1990)

This publication is a collection of items produced by Nicola Durbridge to advise the Arts Faculty on the production of their printed materials. Part 1, entitled 'Course Guides', is a discussion - including description, commentary and recommendations - that focusses upon the content, organisation and style of Arts Faculty Courses Guides. (This paper is also published as TCC Paper 41.) Part 2, entitled 'A206: Illumination', is a memorandum outlining a method of exploiting the printed page in teaching texts through the use of marginal comments. Examples are provided and the practicalities of such a device are discussed. Part 3, entitled 'User-friendly course material: typography', is a memorandum containing some suggestions for ways to make course team essays more palatable to students through the thoughtful use of typography. An appendix provides illustrations of the design consistency in the TMA formulations for A102.

COMPUTING AND COMMUNICATIONS TECHNOLOGY

SUB-SECTIONS:

(1) Computing or Communications?
(2) Computers
- **(2a) Access**
- **(2b) Home computing evaluation project**
- **(2c) Effect of computing on particular groups**
- **(2d) Computer Assisted Learning (CAL)**
- **(2e) Hypertext**

(3) Communications
- **(3a) Computer conferencing**
- **(3b) Ceefax/Teletext**

(4) Multimedia Systems

Developments in new technology present interesting challenges to any institution, and the Open University is no exception. Like broadcasting, the use of new technology can pervade almost every aspect of course development, use and evaluation. The situation at the moment is becoming increasingly complex as communications and computing technologies are themselves converging, so in the not too distant future some of the divisions which are drawn at present between different kinds of systems will become either irrelevant or redundant. For example, the new multimedia systems which are being developed are able to use not only video material, but also video-discs, computer software and present large chunks of text. Major questions need to be addressed: how best should these technologies be incorporated into courses (see **[Multi-media&CD]**); what are the characteristics of these new media; what are the costs involved (both to the institution, and the student); how do students find the new technologies?

This file presents some of the findings available to us at the moment, and discussion of some of these issues. Please refer also to other related files dealing with specific media, and to the file **Multi-media & Course Design** which has a section on New Technology and Course Design. The Centre for Information Technology in Education (CITE) in IET has a special interest in computing in education. Many of the papers in this file are taken from the CITE publications list, and interested readers are advised to contact them directly for further information.

(1) COMPUTING OR COMMUNICATIONS?

174 **BATES, A W.** **The Effects of Micro-Processor and Telecommunications Technology on the OU's Teaching and Administrative Systems**

(in H. Hessullund, O. Prehn, and U. Burskov (eds.) Den papirlose undervisning (Education Without Paper) Aalborg, Denmark: Aalborg Universitetsforlag, 1981)

In this paper the author looks at three particular problems faced by the OU in teaching students at a distance: (i) broadcast transmission times; (ii) low student numbers on specific courses and (iii) communicating within the University. He then describes how both communications technology and computing technology is being explored as one means by which these problems might be alleviated.

250 **BATES A. W.** **Computer Assisted Learning or Communications: Which Way for Information Technology in Distance Education?**

(*Canadian Journal of Distance Education*, Vol.1 No.1 1986 17 pages)

Two uses of computers for teaching in distance education are compared and contrasted: systems on structured, pre-programmed learning materials (i.e. computer-assisted learning, or CAI), where the learner communicates as if with the computer; and systems based on the communications functions of computers (i.e. computer-mediated communications systems), using electronic mail, conferencing and data-bases to facilitate communication between teachers and students. It is argued that the two systems represent quite different educational philosophies, and for distance teaching at a higher educational level, the communications mode offers a more appropriate, humanistic, and pragmatic route for future development. [Multimedia&CD]

244 **BATES, A. W.** **Research into the Use of Advanced Technology in Education: Future Requirements**

(Conference on *Future Research in French Education*, Paris 1985 22 pages)

It is argued that there will be greater use of independent learning and distance education in the future, combined with increased use of technology.

Research into new technology in education should therefore be a high priority. Three kinds of research are required: an identification of the different teaching roles for each medium; development of methods of cost-analysis which help to make decisions about which media to use; and research into the organisational changes needed to ensure that technology is used successfully in education. The paper ends with a brief discussion of the need for new approaches to research and for adequate independent funding. [Multi-media&CD]

(2) COMPUTERS

(2a) ACCESS

SRC 7 KIRKWOOD, A. **Access to Microcomputing Equipment for Study Purposes - Undergraduate Students in 1986**

(Findings from the Costs/Access Survey 1986, internal report 1987)

At the end of 1986 a survey of new and continuing undergraduate students was undertaken on the related issues of 'costs of studying and access to equipment for study purposes'. Questionnaires were sent to a sample of 2,400 students (1,200 students taking their first O.U. course and 1,200 continuing students). This report presents an analysis of students responses to the seven questions concerned with students' access to microcomputing equipment for study purposes. Relevant extracts from questionnaires are reproduced in the Appendix 2 to this report. The main report is preceded by a brief summary of findings which were as follows: (i) one third of students (33%) have access of some kind to a microcomputer that can be used for OU study purposes - 18% have a microcomputer in their home; (ii) male students are far more likely than female students to have access to micro equipment - twice as many men as women have access in the home; the quality of access that men have to micro equipment is better than for women with access and the specification of equipment tends to be better; (iii) access is best for students taking courses in Mathematics, Technology or Maths/Science/Technology.

SRC33 KIRKWOOD, A. **Access to Microcomputing Equipment for Study Purposes - Undergraduate Students in 1988**

(Internal report 1990)

In November 1988 a survey of undergraduate students was undertaken to gather information on student access to two 'new' media technologies, video-cassette players and microcomputers, in order to help the development of University policy in the use of these media. A student based sample of 6,000 undergraduates was composed of two sub-samples: 2,000 foundation and 4,000 post-foundation students taken from those live on the register after the

summer school period. The sample was random, with the exception that all students on all courses being presented for the first time in 1988 were excluded, because they had already been sampled for the Annual Survey of New Courses (see Lawless, 1989). A summary of findings is as follows: (i) over one-third of undergraduate students (37.3%) have access of some kind to a microcomputer that can be used for O.U. study purposes - 23.2% have a microcomputer in their home; (ii) male students are more likely than female students to have access to micro equipment in any location; (iii) the quality of access that men have to micro equipment is better than for women with access and the specification of equipment tends to be better; and (iii) access is best for students taking courses mainly in Mathematics or Technology.

(2b) HOME COMPUTING EVALUATION PROJECT

CITE2	JONES, A., KIRKUP, G. & MORRISON, J.	**A Trial of Home Based Computer Terminals** (Internal report, 1985)

This report should be of interest to members of the Open University who need to know more about the experience of using home based computer terminals as part of Open University study. It should inform those concerned both with course design and with university policy. It should also interest others outside the University who would like to know more about what people actually do with home computers when they are used as terminals accessing a mainframe through a telephone line. The report describes in detail a trial of home based computer terminals carried out with a small sample of students studying M252: Computing and computers, a half-credit undergraduate Open University Course, in 1984. It examines how students set up and used equipment, when they used it, any problems they had with it, and with the course and their feelings about the equipment as used and its potential for other uses. The results complement some previous OU studies which indicate students' preference for home based computing rather than access at a study centre. They also provide new information about practical problems faced by students in setting up and organising such equipment in a family environment.

CITE65	KIRKWOOD, A., & KIRKUP, G.	**Computing on DT200, M205 & M371 - Report of the Initial Survey of Spring 1988** (Summary of main points. Internal report 1989)

The initial survey undertaken in the Spring of 1988 indicated that the first few months of implementing the home computing policy had passed smoothly as far as the majority of students on DT200, M205 and M371 were concerned. However, this short report outlines some problems faced by particular sub-groups of students.

CITE69 KIRKUP, G. & DALE, E. **Home Computing Evaluation Report - M205: End of Year Report 1988**

(Internal report 1989)

M205 is a successful course in terms of increasing the students' enthusiasm for the subject and improving the students' own perceived expertise in practical computing. However, the practical work proved to be difficult and time consuming for novices in the subject. The majority of students felt the course to be vocationally relevant. In 1988 a high proportion of M205 students used computers professionally and felt themselves to be quite skilled. This was much more the case for male students than for women. This paper discusses some of the problems experienced by students in relation to the hire of computing equipment, faults developed by their machines, and the demands of practical work which meant that some of the students who hoped to use equipment at their place of employment found that this was inconvenient; students should be told that equipment at home is really the ideal solution.

CITE70 JONES, A. **Home Computing Evaluation Project M371 End of Year Report 1988**

(Internal report 1989)

M371 is a course where nearly 60% of the students regard themselves as computing experts at the beginning of the year and 76% at the end, (see section 5.2). Given the relatively low pass rate, however, (47.5% of finally registered students obtained a credit), it is clearly not an easy course for students, although it is worth noting that only 51% of finally registered students were examined, and 93% of those who took the exam passed. Most of the students who failed had withdrawn from the course or failed to take the exam. In this paper the author analyses the data from a questionnaire sent to students in September 1988.

CITE76 THORPE, M. **Home Computing Evaluation Project - The Tutor Perspective on Computer Mediated Communication in DT200: Introduction to Information Technology**

(Internal report 1989)

The Home Computing Evaluation Group in the University's Institute of Educational Technology has undertaken a variety of studies of student access to and use of the home computing facilities on the three courses requiring home access in 1988. The tutor evaluation reported here is concerned only with the communication facilities set up on DT200. In November 1987, tutors participated in a weekend briefing by the course team, during which there was

some opportunity for a hands on introduction to the practical activities involving the Amstrad, including the Cosy facilities. Once tutors had installed their computer at home (around January 1988) some could spend time familiarising themselves with the Cosy system and contributing to conferences. A group of 10 tutors from three regions agreed to participate in a qualitative evaluation of their use of Cosy during the year. They agreed to keep a log of all their contacts with students, but particularly those via Cosy. Eight out of ten of these tutors returned a completed log of Cosy usage for the year, and participated in an interview after the examination, in November.

CITE80 KIRKUP, G. **Home Computing Evaluation Project - T102 set-up, start-up and Block One Report on February Survey 1989**

(Internal report 1989)

This document reports the experience of a sample of 164 T102 students who completed a questionnaire near the end of their studies of Block 1, in February 1989. Reports will be produced later in 1989 on the later Blocks of the course. The study of T102 students is part of a long term evaluation of courses within the University's home computing policy.

CITE84 SAXTON, C. **Home Computing Evaluation 1988 - To Compute or not to Compute**

(Internal report 1989)

380 continuing students who had intended to study one or more of the University's home-computing courses (M205, M371 and DT200) during the first year of presentation (1988) did not in fact do so. All of these students conditionally registered during 1987 for one or more of the home-computing courses. Most of them then declined the offer of a place in January 1988. Some of them accepted the offer, but withdrew from the course(s) during the first few months of 1988. This report is based on responses to questionnaires sent out to these students in an attempt to establish why they ended up not studying a course they had originally wanted to study.

SRC28 MORGAN, A. **Home Computing Evaluation Project: Students' Experiences of Study - M205**

(Internal report 1989)

How does the introduction of home computing into the Open University influence the way students go about their studies? The aim of the qualitative research in the overall evaluation project is to generate insights into students' experiences of study. Besides the details of how the course has been received by the students in the first year, i.e. the formative evaluation aspects of the project, what are the more general issues of home computers in OU distance education? What are the issues of access and inequality associated

with home computers? What are the influences on students' study patterns? The aim of the qualitative research is to provide an holistic picture of how students are going about study, and to put a unique perspective to the other studies in the overall evaluation project. This perspective will also contribute to developing theories of student learning in the Open University.

CITE95 **DALE, E., & KIRKUP, G.** **Home Computing Evaluation T102 Mid-Year Report on Students' Survey July/August 1989**

(Internal report 1989)

The sample of T102 students surveyed in July and reported here contain none of the students sampled in the February Survey (CITE Report No. 80). However, taken with the responses in February they demonstrate a consistent positive response to the use of the computer on the course. In July/August 84% of survey respondents (total 202) felt that the time spent on learning to use the computer had been worth it in terms of the benefits received. Men and new students were more enthusiastic than women and continuing students. In common with previous home computing reports, respondents' replies have been analysed by gender, and separately by status - new or continuing. The need to report the results quickly has made it impossible to do any more complex analysis. However, the two sets of categories continue to suggest interesting differences in responses.

CITE107 **KIRKUP, G., & DALE, E.** **T102 Tutors' Use of Home Computing Facility 1989**

(Internal report 1990)

Towards the end of 1989, the home computing evaluation team was asked it it could provide some data about the use that T102 tutors had made of their home computing equipment. Such data would be useful in making future policy with respect to the way the rental pool of equipment was allocated. It was decided that the quickest way to do this was to send out a very short questionnaire to all 1989 T102 tutors. This would contain basic questions about the amount of use made of the equipment and for what purposes, and the kind of disadvantages that would accrue if tutors did not have their own equipment. A covering letter with the questionnaire explained that the data were for policy making purposes. The tone of responses suggests that tutors read between the lines that the University was considering reducing the number of machines in the pool available to tutors, and they did not like the idea. The returned questionnaires - 69% of all 1989 tutors - contained extensive descriptions of the time tutors spent working with the computer, and the variety of tasks they used it for. The comments of almost all the respondents argue strongly that frequent access during the year is vital to efficient tutoring. Tutors quoted extensive amounts of time spent working on the equipment in 1989, and the majority (77%) saw this time as remaining

the same or even increasing for 1990. In fact the main message from the responses was that the loan facility was vital and should continue.

CITE110	JONES, A. & SINGER, R.	**Report on the use of Home Computing on M353**

(Internal report 1990)

The general picture of students using the home computer on M353 is positive. Most of the students have had a home computer for some time, and its use is therefore well established, and initial problems of setting up the computer have been sorted out. This report contains an analysis of data from four different sources: a questionnaire sent at the beginning of the course; telephone interviews with 5 students; the "diaries" of 19 students who kept a journal of significant events during the year and a second questionnaire sent after the course had finished. The first four sections of the report will look at the survey data and the last two sections deal with the journals and interviews.

SRC34	LAWLESS, C., & MORGAN, A.	**Home Computing Evaluation Project: Students' Experiences of Home Computing on the Technology Foundation Course (T102)**

(Internal report 1990)

This study forms a small part of the project to evaluate the Open University's Home Computing Policy. The policy was introduced in 1988 and in 1989, 10,319 students were studying (i.e. were finally registered) on courses under the policy using a home computer. The introduction of a home computer into the remade technology foundation course, T102, in 1989 marks a significant step in the implementation of the home computing policy. Firstly, as a foundation course, it attracts much larger numbers of students than the other courses included so far in the home computing policy and, secondly, unlike those courses T102's course content is not primarily concerned with computing. Computing is only one element, albeit an important one, in the subject matter of the course. Students' responses to the home computing element of the course were surveyed three times during the year using substantial samples of students who responded to questionnaires. The present small study using interviews with eight students illuminates the findings of the questionnaire surveys and provides an in-depth study of the students' overall experience of studying the course and using the home computer.

(2c) IMPACT OF COMPUTING ON PARTICULAR GROUPS

CITE28 KIRKUP, G.

Considering the effect on women students of an increased use of microcomputers in distance education

(*International Council for Distance Education 14th World Conference,* 1988)

The Open University has always had courses, mainly in maths and sciences, where students were obliged to use a computer for assessed course work. This computing facility has been provided, in the past, by the OU through terminals and modems in local study centres, where students could dial up the University's mainframe computer at the University's expense. This system has always been of limited use due to various practical problems. The University is now implementing a home computer policy which will rely on student owned microcomputers and reflects a commitment to increasing the use of computers as distance teaching devices across many areas of the university. Unless this new medium is accessible to all potential students and staff, it will disadvantage and discourage some. In this paper the author is particularly concerned about the effect it might have on women.

CITE30 EDWARDS, A. D. N.

The use of home computers by disabled students at the Open University - Part 1: Previous use of computers in courses

(Internal report, 1988)

The Open University is in the process of implementing a policy whereby students on certain courses will be obliged to have access to a microcomputer. Previously computing had generally been carried out on the university's mainframe computers, accessed through terminals in local study centres. The effects of the Home Computing policy will be far-reaching and amongst students who will be particularly affected are those who have disabilities. In order to anticipate some of the likely consequences of the policy for disabled students two surveys were carried out amongst disabled Open University students. One survey concentrated on students who had taken courses in the past which had involved the use of computers. The second included students who had used computers as aids to their studying. This paper reports the results of the surveys. The results suggest that the Home Computing policy will represent an improvement in the position of disabled students; it implies that they will be able to work with greater independence from their own homes. There are a number of problems, however. The two most important are: the need for support at a number of different levels in the provision and maintenance of equipment, and the financial consideration for students

taking Home Computing courses. This is especially important to the many disabled students who are on low incomes.

(2d) COMPUTER ASSISTED LEARNING (CAL)

217 LAURILLARD, D. M. **Styles of Computer Based Learning and Training**

(in N. Rushby (ed.) Computer Based Learning and Training, Pergamon Press 1983)

This paper discusses styles of CBL and CBI in terms of their fundamental educational characteristics, such as the balance of control between program and learner, and the kinds of learning activity they induce. Learning and training are not considered to be intrinsically different in practice, and styles such as drill-and-practice, tutorial, simulation and modelling are discussed with reference to both. Current implications of these are described together with a critique of their advantages and disadvantages. Finally the paper discusses the likely educational potential of the new media, and suggests an appropriate model for courseware development. [Multi-media&CD]

CITE82 LAURILLARD, D. **T102 Numeracy Formative Report, July-August 1989**

(Internal report 1989)

Computer Assisted Learning (CAL) programs were developed for 12 numeracy topics in the T102 Foundation Technology course beginning in February 1989. Students were sent the disks together with their Block material for the first three Blocks. Some disks were sent late, which led to reduced student use of the programs. The formative evaluation was carried out during weeks 1 and 3 at UEA Summer School. On each occasion students were forewarned of the evaluation study at the course director's briefing. While students were doing the Water Activity they were asked to take time out on an individual basis to spend short periods (20-30 minutes) working through CAL programs while being observed and their work recorded. Only those students who either had used the programs or had wanted to were asked to participate. Altogether 53 students were observed working through the 12 programs, the pre-tests and post-tests, with a minimum of 5 students observed for each topic. For each student the protocol recorded all their input, the computer output, other activities (e.g. taking notes), student's verbatim comments, evaluator's comments, and the program's routing decisions. In addition, comments from informal conversations with students, especially from the evening Numeracy tutorials and survey throughout the two weeks, were also recorded.

CITE87 **WHALLEY, P.** **Models of hypertext structure and learning**

(Paper presented at the NATO Advanced Research Conference on *Hypertext and Learning*, Tubingen, July 1989)

The dominant conception of the hypertext form is as a medium for information retrieval rather than learning, and where learning is considered, it is usually only of a fairly rudimentary form. The question is raised of whether the 'control' given to the hypertext user may be merely illusionary, in that the fragmenting effect of the non-linear text forms can make it more difficult for the reader to perceive an author's intended argument structure. The artefacts introduced by the hypertext form, in order to improve accessibility, mitigate against its use as the principal teaching medium. It is suggested that designers of hypertext materials might usefully adopt some of the supposed constraints of the linear text form, and that until various problems have been overcome, hypertext might best be used to supplement rather than supplant printed materials for many learning purposes.

P9 **WHALLEY, P.** **Models of Hypertext Structure and Learning**

(in D. Jonassen and H. Mandl (eds.) Designing Hypermedia for Learning, Springer-Verlag, 1990)

The dominant conception of the hypertext form is a medium for information retrieval rather than leaning, and where learning is considered, it is usually only of a fairly rudimentary form. An important question is whether the 'control' given to the hypertext user may be merely illusory, since the fragmenting effect of the non-linear text forms can make it more difficult for the reader to perceive an author's intended argument structure. The artefacts introduced by the hypertext form, in order to improve accessibility, mitigate against its use as the principal teaching medium. It is suggested that designers of hypertext materials might usefully adopt some of the supposed constraints of the linear text form, and that until various problems have been overcome, hyptertext might best be used to supplement rather than supplant printed materials for many learning purposes.

P11 **WHALLEY, P.** **An Alternative Rhetoric for Hypertext - a return to linearity**

(January 1991)

The conventional rhetoric for hypertext is based on the idea of subordinating linearity, in that links and hierarchies become the main structural representations. Although hyptertext is bound to be implemented in terms of the basic computing element of pointer structures, it is shown that they do not have to become as dominantly apparent in their raw form as they are in most current hypertext systems. An alternative rhetoric is proposed for hypertext based on the aspects which are most likely to aid learning, rather than the conventional regard for the more limited concerns of information retrieval. It is suggested that the most important pedagogic feature of hyptertext is its malleability - it can change over time and it may offer multiple perspectives on a particular domain. A learner centred rhetoric is developed in which hypertext plays the role of *animateur* for the distant author.

(3) COMMUNICATIONS

233 **BATES, A. W.** **The Implications for Teaching and Learning of New Informatic Developments**

(*Higher Education International's First Annual Conference*, York 1984)

This paper looks at how new developments in communications technology can help meet major higher education needs up to the year 2000. The paper describes some of the strengths and weaknesses of four new technologies - computer conferencing, cable TV and video-cassettes, computer-based audio-graphics systems, and interactive video-discs - for conventional on-campus teaching, in comparison with audio-cassettes and computer-aided learning. It is suggested that the potential now exists for a flexible mixture on on-campus and off-campus teaching. However, the paper also suggests that innovation will be very slow, not because of cost or technological limitations, but due to institutional barriers. [Multi-media&CD]

(3a) COMPUTER CONFERENCING

CITE91 **KAYE, A., MASON, R., & HARASIM L.** **Computer Conferencing in the Academic Environment**

(This paper is based on a report prepared by the authors in 1988 for a committee considering the introduction of a distributed computer conferencing system for use by staff and students of post-secondary education institutions in British Colombia, Canada).

The authors introduce the main features of computer-mediated communication, concentrating on the use of computer conferencing for collaborative and group work. Twelve case-studies of the use of computer conferencing in the academic environment are then presented and analysed, with attention being given to both positive and negative factors influencing the implementation and the use of this technology. Three main application areas are covered: administration, collaboration and teaching. Consideration is also given to the use of computer conferencing for social networking. A concluding section, referring back to the case-studies, identifies four key areas which must be attended to for successful use of computer conferencing: access to technology, user support, induction of novice users and conference moderation.

CITE98 **KAYE, A. R.** **Computer Conferencing and Mass Distance Education**

(in M. Waggoner (ed.) Empowering Networks: Using Computer Conferencing in Education, 1990)

This paper briefly reviews the first large-scale use of computer-mediated communication (CMC), including computer conferencing and electronic mail, in adjunct mode on a multi-media distance education course with large numbers of students. The course in question is a 400-hour second year undergraduate course at the British Open University, with annual enrolments of around 1500 students, and involving 70 part-time tutors. The course is a multi-disciplinary one, covering the social and technological aspects of the use of new information technologies. The first part of the paper outlines the rationale for introducing CMC into the distance education situation, specifically in terms of the use of the medium for regular updating of a course, and for increasing the opportunities for interaction amongst and between students, tutors and course developers. It them goes on to describe the Open University's growing 'electronic campus', a virtual environment where central and regional university staff, tutors, alumni and other members of the university's dispersed community can meet, socialise, collaborate and learn from each other. The second part of the paper looks at the effects and implications of the use of computer conferencing within an Open University course, with specific reference to the roles of the course team, the tutors and the students. In particular, it asks to what extent CMC as a medium can 'empower' students and tutors in the distance learning environment - namely, give them a stronger role in the educational process, and an enhanced opportunity to contribute and share their own knowledge and experience as adult learners.

CITE99 **MASON, R.** **Home Computing Evaluation Use of COSY on DT200, 1989**

(Internal report 1990)

This report on the use of the computer conferencing system COSY, begins with a summary of its application at the Open University in 1988 , and describes the changes made for its use in 1989. An evaluation based on both quantitative data from interviews and conference comments, is made and compared with results from the first year. The similarities of students' reactions to the medium over the two years are brought out : the logon rate, student attitude to conferencing, and the advantages of the medium. The differences brought about by the changes in the second year are also analysed: the content of messages, the readership of conferences, the management of the system, the improvement in communications and the interactive nature of discussions. The paper then draws out the major difficulties impeding the further exploitation of the medium: the passivity of students, the limitations of the medium itself, and the difficulties of teaching practical work at a distance. The conclusion summarises the overall success of the medium at the Open University, and includes a number of surprising benefits of its introduction.

(3b) CEEFAX/TELETEXT

79 **BATES, A.W. & KERN, L.** **Alternative Media Technologies for the Open University**

(Open University 1977 71 pages)

This research reports on costed alternatives to the direct transmission of audio-visual material, examines the feasibility for distance teaching of new developments in technology, such as electronic blackboard, audio-vision, Viewdata and telephone teaching and compares their costs and educational potential with those of radio, audio-cassettes and television. [Multi-media&CD]

87 **BATES, A. W.** **Options for Delivery Media**

(In H. Perraton, (ed.) Distance Teaching for Formal Education: Costs and Effects, Washington D.C., World Bank 1978)

This chapter examines the range of audio media available for educational and development in developing countries, and examines the unique role of radio when other audio media are also available. It looks at comparative costs and the educational advantages and limitations of radio, cassettes, records, telephone teaching, television, and new media, such as electronic blackboard, Viewdata and T.V. games. [Multi-media&CD]

220 **BATES, A. W.** **Overview of the Use of Media in Distance Education**

(Paper for Norwegian Association of Correspondence Schools, Oslo, June 1983 13 pages)

This paper reviews the use of different audio-visual media in distance education, including terrestrial broadcasting, cable and satellite, video-cassettes, audio-cassettes, telephone teaching, Viewdata and Teletext, micro-computers, and interactive video. The paper also includes a summary of trends in distance education, and relates them to trends in media technology development. The paper concludes with some major implications for distance teaching institutions. Papers numbered 221 (this section) and 222 (in [TV] [Radio&Audio]) develop further some of the issues in this paper. [Multi-media&CD]

CITE3 **KIRKUP, G.** **The Present and Potential Use of CEEFAX in the Open University**

(Internal report 1985)

In 1984 some Continuing Education course teams experimented with using CEEFAX as a different medium for disseminating material. This report documents the OU use of CEEFAX in general as well as in particular courses and concludes by suggesting that CEEFAX could be a very useful medium for the OU to be involved with.

(4) MULTIMEDIA SYSTEMS

P7 **TAYLOR, J., O'SHEA, T., SCANLON, E., O'MALLEY, C. & SMITH, R.** **Discourse and Harmony: Preliminary findings in a case-study of multimedia collaborative problem solving**

(submitted to *Journal of Educational Technology Systems* 1991)

At the Institute of Educational Technology at the Open University we are concerned to understand how to design effective computer-based support for collaborative learning where people are located at different physical sites and connected via various forms of technology. A collaborative project with Rank Xerox EuroPARC provided us with an opportunity to collect data on pairs of subjects working together on a physics problem using a distributed multi-media problem solving environment. Users communicated via screen-sharing and a camera-monitor device called a "video tunnel". This paper describes a methodology for analysing complex problem solving interaction between subjects, and provides preliminary evidence to support the essential role of visibility of one's partner through a video link for successful co-operative work to take place. [ResearchMethod]

INTERACTIVE VIDEO

SUB-SECTIONS:

(1) Characteristics of Interactive Video
(2) Analysis of Interactive Video
(3) Using Interactive Video

In principle, Interactive Video offers a range of exciting opportunities for future development. However, as with any media, there are inherent problems associated with making the best use of the available technology. Papers in this category discuss such problems as well as considering how interactive video could be used in the Open University context.

See also the file on Multimedia and Course Design **[Multi-media&CD]**.

(1) CHARACTERISTICS OF INTERACTIVE VIDEO

203 **LAURILLARD, D. M.** **Current Developments in Interactive Video: Report on US Visit**

(Internal Report 1982 32 pages)

A report of a visit to several educational institutions in the United States to investigate the most recent developments in interactive video for education. The main aims were (i) to exchange experiences of the technical and pedagogical problems in developing interactive video; (ii) to assess the best ways of designing these materials from the point of view of user-friendliness and good use of the medium; and (iii) to obtain video discs with good educational material for research and development within IET at the Open University.

206 **LAURILLARD, D. M.** **The Potential of Interactive Video**

(*Journal of Educational Television*, Vol. 8, No. 3, 1982, pp 173-180)

Interactive video combines two well-established media, video-cassette and computer-assisted learning (CAL), in an attempt to combine the advantages and overcome the deficiencies of both. The paper describes a feasibility study of the medium, using a package that includes a video presentation intercut with interactive CAL programs, on the subject of signals in communication technology. The necessary hardware is described, and two ways of authoring the educational software are compared. Finally, the educational implications

of the new medium are discussed together with a consideration of the logistic and administrative problems it presents.

P4 CROOKS, B. **The Potential of Non-Broadcast Television Technologies for Learning and the Implications for Educational Television Design and Research**

(Tel-Aviv Seminar on *ETV Broadcasting Research in the Nineties* sponsored by the European Broadcasting Union, Tel Aviv, Israel, March 1990 9 pages)

The teaching potential of video-cassettes and video-discs are reviewed, together with an indication when mass access is likely to rival that of broadcast television. Since the immediate challenge is presented by video-cassettes, the implications that the characteristics of this technology have for television design are explored. The changes to broadcast educational television that are likely to result from the impact of the video-cassette medium within the next decade are explored by means of a brief scenario. [Video] [Broadcasting] [Multi-media&CD]

(2) ANALYSIS OF INTERACTIVE VIDEO

223 LAURILLARD, D. **The Problems and Possibilities of Interactive Video**

(in A. Jones et al. (eds.) The Computer Revolution in Education: New Technologies for Distance Education, Harvester Press 1987, 13 pages)

In this chapter, the author considers how experience from the world of education of how new technologies succeed or fail in relation to student learning can inform the development and use of interactive video. She concludes that success for this new medium will depend, like every other teaching method, on the quality of the material it is constructed around, and that in turn depends upon the management of software. Past experience would indicate that the skilled team model for development is the most appropriate.

226 LAURILLARD, D. M. **Interactive Video-Cassette Feasibility Study: Formative Evaluation Report on *Signals* (T101)**

(Internal Paper 1983 9 pages)

Interactive video can refer to a variety of different ways of controlling the presentation of video teaching material. The most common usage refers to the computer control, through an interface board, of a videodisc player, or a video-cassette player. The existence of this form of interfacing provides a new teaching media combination of computer-assisted learning (CAL) and video. [Evaluation]

231 **LAURILLARD, D. M.** **Interactive Video and the Control of Learning**

(*Educational Technology*, Vol. 24, No. 6 1984 18 pages)

The combination of computer assisted learning (CAL) with video provides an inviting new educational medium which educational technologist are eager to exploit. Interactive video has obvious potential because it brings together a good expository medium with a good interactive medium. The coupling is not straightforward from the educational point of view, however, and poses a number of difficult questions for the designer to resolve. Some of these are amenable to research, and this paper describes a feasibility study designed to investigate the new medium and to provide some information about the kind of learning experience it offers to students.

(3) USING INTERACTIVE VIDEO

218 **FULLER, R. G. (ed.)** **Using Interactive Videodiscs in Open University Courses**

(Internal report 1983)

A collection of papers presented at the workshop on using interactive videodiscs organised by the Audio Visual Media Research Group, IET, Open University, June 1983. Papers cover use, design and evaluation of videodisc material. [Multi-media&CD]

249 **BATES, A. W. & HILL, B.** **Action Replay: Videodiscs in School**

(*Times Educational Supplement* 1985)

The educational potential of interactive video is rarely disputed, but what of the costs? Tony Bates suggests the introduction of ordinary videodiscs into schools, while Brian Hill looks at the advantages of combining videotapes and computers for language teaching.

255 **BATES, A. W., & LAURILLARD, D.** **Uses of Videodiscs in Schools**

(Paper for Department of Education and Science, 1987 6 pages)

In this paper the authors consider videodisc technology, the Open University experience of using the technology, and the potential of videodiscs in schools.

256 **BBC/OUPC** **Interactive Videodiscs: Some Questions Answered**

(Briefing paper for Department of Education and Science, 1987 4 pages)

This short paper deals with questions arising from the use of interactive videodiscs in schools, such as what are the advantages, what systems are available, how much does it cost to develop, what is currently being done and what should be done in the future.

273 **LAURILLARD, D. M.** **Videodisc Evaluation Report: *The Teddy Bears Disc***

(Internal report 1984)

This evaluation report is on an interactive video disc developed for a second level course in technology on the structure of materials. The course covers a wide variety of concepts in metallurgy and materials technology, and the aim of the disc was to provide a synthesis of all these by bringing them to bear on a real life problem. The video was used to present the problem, its context, and the visual aspects of the concepts involved; the computer interaction was used to allow the student to perform surrogate experiments, and to test their knowledge and understanding of the content.

242 **BATES, A. W.** **W(h)ither Video? What future does video have in schools?**

(*Times Educational Supplement* 1985)

In this article the author argues that DTI funding would be better spent equipping schools with basic video equipment rather than in promoting video-disc technology in schools. [Video]

CABLE AND SATELLITE TELEVISION

SUB-SECTIONS:

(1) Cable TV
(2) Satellite Policy
(3) Satellites in Europe (and JANUS project)
(4) Satellites in the Commonwealth

The rapid development of new communications technology presents interesting possibilities for the Open University. However the current situation with regard to satellite broadcasting is complex, requiring consideration of policy issues, not only in relation to the Open University itself, but also in relation to other large institutions. The papers in this category outline some of these issues and discuss some of the potential and difficulties.

(1) CABLE TV

236 **BATES, A. W.** **Involvement in Cable: Practical Aspects for Educational Users**

(in V. Thompson, (ed.) Education and Social Action Programming for Cable, London: Council for Educational Technology, 1984)

At first sight, cable offers exciting prospects to teacher, particularly in adult education: new courses, new students, and new ways of teaching. However, no extra money is going into education for new services; educational institutions therefore need to be sure that any new enterprise will make more effective use of existing resources. The author considers these issues in relation to programmes, publicity, student interaction with cable TV, and follow-up and local support.

(2) SATELLITE POLICY

213 **BACSICH, P., BATES, A. W., BOYD-BARRETT, O., & STENHAM, R.** **The Implications for the Open University of Recent Cable and Satellite Developments**

(An internal discussion paper for presentation to Senate, 1984, 14 pages)

In this paper the authors raise major questions as to the ways in which the Open University might be affected by cable TV. They indicate the wide range of people and departments in the University that will be affected by such developments, discuss and detail the main issues, and set out a proposed strategy for dealing with those issues. [Broadcasting]

265 **BATES, A. W.** **Satellite Policy Issues for the Open University**

(Internal paper 1987 15 pages)

This discussion paper outlines a set of decisions which the Open University must make in relation to its role in satellite broadcasting, and provides arguments for and against each of the points raised. [Broadcasting]

286 **BATES, A. W.** **Satellite Developments in the Open University**

(Internal paper for BAVSC, 1988)

This report discusses the current and future situations with regard to the Open University's policy toward satellite broadcasting. [Broadcasting]

(3) SATELLITES IN EUROPE

263 **BATES, A. W.** **The Organisation and Management of a European Educational Satellite System**

(Report for IBM/SOFT, 1987 17 pages)

This paper looks at the possible roles that the EEC as a Pan-European quasi-governmental institution might play in the management and organisation of a European educational satellite system. The paper argues that there is a need for the EEC Commission to play an on-going, regulatory role; indeed it is difficult to see how a European educational satellite system can become operational without a positive, interventionist role from the EEC.

267 **BATES, A. W.** **The Potential and Realities of Using Satellites for Distance Education in Western Europe**

(in D. Stewart, et al. (eds.) Developing Distance Education, Oslo: ICDE, 1988)

The paper indicates that technological and cost issues, while important, are secondary to educational issues. It is argued that the use of satellites for distance education in Europe is dependent on policies for transnational teaching, and in particular on identifying specific transEuropean target groups

with a clearly identifiable need for such courses. The paper also indicates that satellites can provide a wide range of services, including teaching by audio and low band graphics, text transfer, electronic mail and access to remote databases, as well as the much more expensive television broadcasting. It is suggested that new methods of course design which fully exploit the technology are required for courses using satellites, rather than the adaptation or transfer of existing materials. The paper suggests that established European distance teaching institutions are responding too slowly to the opportunities offered by satellite in Europe, and as a consequence, new organisations are filling the gap. Lastly, the paper emphasises not only the need for co-operation between distance teaching institutions in both joint course production and delivery, but also the very narrow window of opportunity for funding for teaching by satellite from the EEC and the provision of free satellite transmission facilities from the ESA.

272 **BATES, A. W.** **Use of Satellites for Education and Training: A Review**

(Internal report, 1987 7 pages)

The aim of this paper is to evaluate the potential and limitations of satellite TV for education and training within the European context through an examination of experience in other countries. It is an interim report as further information is still awaited.

283 **BATES, A. W.** **New Educational Media: New Directions in the Training of Trainees**

(Berlin: CEDEFOP 1988)

Will satellites prove to be a major communications medium for distance training in Europe, or will they prove to be yet another technology in search of a role? It is argued that the value of using satellites for training depends not on the technology itself, but on the ability of trainers to define appropriate national and transnational training needs in Western Europe that can be satisfied more effectively or economically by using satellites, rather than more conventional training methods.

P8 **BOYLE, G.** **Briefing Paper on Developments in Direct Broadcasting by Satellite in Europe**

(Energy and Environment Research Unit, Technology Faculty: Paper for BAVSC June 1990)

Recent developments in the use of Direct Broadcasting by Satellite (DBS) for education in Europe are reviewed. It is suggested that the Open University should consolidate its position as the leading provider of distance education

in Europe. In addition to continuing its support for existing OU satellite-based initiatives, it is proposed that the University should prepare a series of existing TV programmes, chosen for their relevance to European audiences and linked to CE 'packs', which would be broadcast at regular intervals on one or more European DBS channels.

JANUS PROJECT

284 **BATES, A. W.** **JANUS (Joint Academic Network Using Satellite): Briefing Document No. 1**

(December 1988, 8 pages)

A general description of the proposed JANUS system including costs and funding and management of the project to establish a private voice and data network via satellite to link up European institutions wishing to work together to produce jointly distance teaching and training materials for delivery on a European-wide basis. (See also papers 285, 287, 289, 296, 296b)

285 **BATES, A. W.** **JANUS: DELTA Project Proposal: Technical Summary**

(Proposal for feasibility study, Jan 1989)

The ultimate aim of this project is to establish in 1990 a private voice and data network via satellite to link up European institutions wishing to work together to produce jointly distance teaching and training materials for delivery on a European-wide basis, and wishing to transfer credits between organisations. In order to do this a number of technical, regulatory, education and organisational issues have be resolved. The aim of this proposal is to carry out the work that will enable the full project to be successfully implemented, in the form of a feasibility study. (See also papers 284, 287, 289, 296, 296b)

287 **BATES, A. W.** **JANUS: (Joint Academic Network Using Satellite)**

(October 1989, 10 pages)

Brief description of the JANUS project. (See also papers 284, 285, 287, 296b)

289 **BATES, A. W.** **JANUS: (Joint Academic Network Using Satellite): Briefing Document No. 2**

(Details of feasibility study, Feb 1989)

This reports the problems encountered by the JANUS project and a revised bid is outlined. (See also papers 284, 285, 287, 296, 296b)

296 **RAWLINGS, A., & BATES, A. W.** **Survey of Distance Teaching Institutions: JANUS Workpackage 1**

(October 1989)

In order that good use is made of the JANUS system, it must be well integrated with the communication facilities that exist at present for both voice and data services. This paper presents the results of a survey of 15 European institutions conducted to establish the existing communication facilities so that the JANUS project team is able to specify a well-integrated system.

296b **RAWLINGS, A.** **JANUS: Workpackage 1**

This paper is the questionnaire which was sent out to European institutions to establish their existing communication facilities (see paper 296).

(4) SATELLITES IN THE COMMONWEALTH

254 **BATES, A. W.** **Satellite Technology: Some Indications of Costs**

(*Media in Education and Development*, Vol. 20, No. 2, 1987)

Whilst worldwide interest in satellite technology and its implications for education and rural development programmes grows, providing costs for the use of satellites is extremely difficult, and no paper on costs can be definitive. Drawing on what information is available, and the costs so far incurred by existing satellite projects, the author outlines what needs to be taken into account in costing practice and provides 'ball-park' figures in this paper prepared for the Commonwealth Secretariat.

269-71 **BATES, A. W.** **Satellites for Commonwealth Education: Some Policy Issues**

(Executive Summary/Main Report/Case Studies [AUSSAT, Australia, Knowledge Network, Canada, INSAT, India, University of the South Pacific, University of the West Indies] London: Commonwealth Secretariat, 1987).

The Commonwealth Secretariat commissioned Educational Information Technology Associates to conduct a study on the educational use of satellites

for the Commonwealth Secretariat's Education Programme. The study had the following aims: (i) to identify the policy issues that need to be addressed by ministries of education, universities and other educational bodies in developing Commonwealth countries with respect to the educational use of satellites, taking into account the needs of small states; (ii) to describe the regulatory issues on which either individual or collective government action may be appropriate; (iii) to review Commonwealth experience, so that this can guide policy on, inter alia, the particular educational purposes for which satellite links have proved useful, regulatory issues, costs and technical issues and (iv) to examine the possibility of access to databanks from remote locations through satellite communication. The study is part of a long term strategy to help commonwealth education systems to benefit from satellite technology. The study will provide background material for a meeting of specialists in 1987/88. The study was conducted between June and September, 1987. [OtherInstitutions]

258 **BATES, A. W.** **Satellites for Education and Training**

(Internal report, 1987 5 pages)

A report on a visit to India by the author to collect information on the Indian INSAT-1B satellite project. This paper is a summary of contacts and documentation collected.

CYCLOPS

SUB-SECTIONS:

(1) Characteristics of CYCLOPS
(2) Analysis of CYCLOPS
(3) Using CYCLOPS

CYCLOPS is a telewriting system developed at the Open University, mainly used for tutorial purposes. Although it is now being over-taken by new technologies, its development and use provides an interesting case-study of the process of introducing innovative technology.

(1) CHARACTERISTICS OF CYCLOPS

141 **BATES, A.W., READ, G., & SPARKES, J.** — **CYCLOPS: A proposal for an Open University/Post Office investigation into the feasibility of an audio-visual tutorial system using the standard telephone network**

(Proposal to British Telecom 1980)

This paper is the original proposal to British Telecom for an evaluation of the CYCLOPS system, giving details of the organisation of the project, as well as the main aims and objectives.

219 **McCONNELL, D., & SHARPLES, M.** — **Report to British Telecom on the Human Factors of CYCLOPS Telewriting Tutorials**

(1983 - 26 pages + appendix)

In 1980 British Telecom and the Open University began a collaborative action research project in the application of CYCLOPS telewriting to distance tutoring. The project investigated the educational uses of CYCLOPS, its potential for distance teaching, and the human factors of using the system. This paper is a detailed report of the findings from this study.

(2) ANALYSIS OF CYCLOPS

143 **BATES, A.W.** **Applying New Technology to Distance Education: A Case Study from the Open University of Difficulties in Innovation**

(*Educational Broadcasting International*, Vol. 13, No. 3, 1980)

CYCLOPS is a good example of the possibilities for education on new microprocessor technology. CYCLOPS also provides a good case-study of some of the difficulties to be encountered in innovating with new technology in large educational institutions. The system is briefly described, followed by an analysis of the financial difficulties encountered in moving from a prototype to a developmental stage. The teaching functions, the way the tutoring would be organised, regional acceptance and difficulties at local centres with the technology itself are described. Finally, a number of general observations are made about the problems of innovation arising from this case-study. [Multi-media&CD]

194 **SHARPLES, M. & McCONNELL, D.** **Report on CYCLOPS Telewriting for Distance Tutoring**

(Internal Report, 1982)

In 1980 British Telecom agreed to fund a two year evaluation of the CYCLOPS telewriting system as an aid to distance tutoring of Open University students. Three people were appointed to the OU staff - two research fellows and a secretary - and CYCLOPS equipment was installed in 15 study centres throughout the East Midlands Region. The equipment enables a tutor to communicate by voice, through a loudspeaking telephone, and by drawings, providing the facilities of a 'long distance overhead projector' to students in up to ten distant centres. This report is in three sections: Section 1 - a description of the East Midlands project; Section 2 -conclusions drawn from our evaluation of the project to date; Section 3 - recommendations about: (a) the deployment of the existing CYCLOPS terminals at the end of the project; (b) the introduction of telewriting into the Open University tuition system.

201 **SHARPLES, M.** **An Evaluation of the CYCLOPS Telewriting System for Distance Tutoring of Open University Students**

(Internal Report 1982 7 pages)

This paper describes the CYCLOPS system, discusses the technical problems and suggests effective strategies for tuition by telewriting.

(3) USING CYCLOPS

200 **BATES, A. W., ALLIN, C., MARCUS, R., & PORTER. P.**

CYCLOPS in Schools: A Small Pilot Study

(A report for the Micro-electronics in Education Programme 1982)

CYCLOPS is a telewriting system (a system which adds graphics communication to voice-only teleconferencing, allowing for live transmission of writing and drawing by telephone) with a light sensitive pen which enables drawing directly onto the TV display screen. The Open University has been using this system for two years to tutor students in the East Midlands area of England. This paper reports on a study funded by MEP to investigate whether the basic technology of CYCLOPS would be a valuable tool for schoolteachers to construct their own teaching materials which could be developed and recorded more easily and cheaply than using microcomputers or video-cassette production methods. The study is involved three teachers developing their teaching materials in CYCLOPS, and describes their reactions and performance.

204 **McCONNELL, D.**

The Open University East Midlands Region CYCLOPS - 1981 Tutor Debriefing Report

(Internal report 1982)

This paper on the CYCLOPS Tutor debriefing held in Nottingham Regional Office in 1981 covers an overview of the 1981 trials of CYCLOPS, group discussions and individual work on tutorial formats.

209 **McCONNELL, D.**

CYCLOPS Telewriting Tutorials

(*Teaching at a Distance*, 22, 1982)

This article describes the CYCLOPS system and its field trials.

202 **SHARPLES, M., & McCONNELL, D.**

Distance Teaching by CYCLOPS: An Educational Evaluation of the Open University's Telewriting System

(*British Journal of Educational Technology*, Vol. 14, No. 2 1983)

The trend towards courses with low, widely scattered student populations in the Open University makes the provision of face to face tutorials difficult. Telephone tuition is being used as an alternative. One major drawback of this

is the lack of a graphics facility for communicating writing and drawings. To help overcome this the Open University has developed a graphics telewriting terminal called CYCLOPS which allows for the live transmission of writing and drawing by telephone. This paper describes the system and explains how it has been used in a 2-year trial project funded by British Telecom for tutoring OU students. The trial is proving that telewriting tutorials are both educationally effective and acceptable to a large number of students and tutors.

EVALUATION OF PROGRAMMES OR COURSES

SUB-SECTIONS:

(1) General Surveys of Courses
(2) Evaluation of AV Media Components of Courses
(3) Evaluations of Individual Programmes

Large-scale surveys and projects are undertaken to provide information for general policy-making in the audio-visual area (see **[Broadcasting]** for broadcast surveys and see **[StudentUsage]** for other survey work). However, while such studies provide a University-wide picture of the ways students use audio-visual media, it is also necessary to look more closely at the use of television and radio on individual courses or in individual units. The aim of this kind of research is to build up a deeper understanding of what makes an effective television or radio programme. While it is hoped that such studies will be of value to the course team responsible for the programmes, remake facilities are limited, so the main aim is to look for general principles which can be applied to new courses in the pipeline, and to provide individual producers and academics with detailed feedback on how the programme was received, to guide their future work.

For papers discussing methods of evaluation see **[ResearchMethod]**

(1) GENERAL SURVEYS OF COURSES:

50 **BATES, A. W.** **A Summary of the Results of the 1974 Survey of Broadcasting, Regarding Open Forum Programmes**

(Internal paper, 1975, 3 pages)

A paper which summarises the Open Forum viewing and listening figures by year of intake, and discusses the more popular transmissions. The discussion emphasises the need for programmes which students perceive as relevant to their studies and suggests that a change of policy is necessary.

113 **GRUNDIN, H.** **Open Forum Broadcasting 1978: A Survey of Students' Use and Attitudes**

(Internal paper 1979)

Open Forum broadcasting is non-course-related and 1974 and 1976 broadcast studies reported audience figures which caused some concern in this area. This large scale survey deals entirely with Open Forum broadcasts and identifies particular programmes widely used by students and makes a number of recommendations on the timing and content of programme information which might prevent a further decrease in numbers of students viewing or listening.

179 GRUNDIN, H. **Audio-visual and Other Media in OU Short Courses: Results of a 1979/80 Survey**

(Internal paper 1981)

Summarises the main results of 1979/80 surveys of seven short courses (P911, P912, P913, P931, P932, PA984 and PT985), in which questionnaires were returned by over 1,200 students. The report presents information about many other things, such as: (i) short course students' access to AV equipment of various kinds; (ii) the extent of viewing/listening to broadcasts in individual courses; (iii) students' appreciation of AV and other media, and main reasons for their lack of satisfaction where applicable. The report concludes that broadcasts are generally successfully used in short courses, but also points to possibilities for further improvement.

SRC 27 WOMPHREY, R. **Report to the Technology Faculty Courses Committee - Technology courses in first presentation 1985-1988**

(SRC report April 1989)

In this paper are reviewed the principal findings from student feedback, collected by the Student Research Centre in I.E.T. The aim is to present the students' attitudes to the components of the courses and their views on some other issues. The feedback was collected from the students at the end of the respective courses, immediately after the examination. The report provides a comparative evaluation of the various media used in the courses. [StudentUsage]

<u>(2) EVALUATIONS OF AV MEDIA COMPONENTS OF COURSES</u>
This section focuses specifically on the AV components, arranged in alphabetical order of course designation.

81 BERRIGAN, F. **A101 Developmental Testing: History TV3, TV4, R3, R4, R5**

(Internal paper, 1977 106 pages)

This compilation provides a record of the pre-testing carried out on the radio and television programmes on the History section of A101. It contains a

description of each programme, the accompanying broadcast notes, a summary of student responses and recommendations made to the course team.

230 DURBRIDGE, N. **Teaching Music on Audio-Cassettes: A study of A241**

(Internal paper 1983 23 pages)

This paper reports on the findings of an evaluation, carried out via student interview and observation, of 3 audio-cassettes aimed at teaching students certain fundamental elements of music. It includes recommendations and advice to the course team, and discussion of the nature of the problems faced by both musically experienced and inexperienced students taking this course.

147 BATES, A. W. **The Rise of Modernism in Music:A308 A Course Review**

(Internal paper 1980)

A brief analysis of information compiled on the audio-visual media component, discussing the course's use of television, radio, records/cassettes and other forms of media used.

107 BROWN, D. H. **Behind the Viewing Rate: A Study of the Television Component of A321**

(Internal paper, 1979 21 pages)

This is a study of a course with an exceptionally low viewing rate compared with other courses. Three areas were examined for possible explanations of a decline in viewing over the course - student characteristics, unusual aspects of the course, and the way television functioned as a component of the course. Questionnaire responses indicated that most students wanted informative, factual programmes closely linked to the written material, a role it was difficult for A321 television to play. It was concluded that A321 could profit by replacing the broadcasting component with audio-cassettes supplemented by a filmstrip or booklet of visuals.

144 BATES, A. W. **Report on Use of Broadcasting on History of Science Courses (AMST 283, AST 281, AM 289)**

(Internal paper 1979)

A brief analysis of information compiled on the audio-visual media component, discussing the course's use of television, radio, records/cassettes and other forms of media used.

92 MORGAN, F. **First of all, see the programme: A Critique of *Using Television* in the Social Science Course D101: Making Sense of Society**

(Internal paper, 1978 22 pages)

This paper analyses *Using Television* commenting on what is shown on the screen and heard by way of commentary. This is a programme designed to help students' understanding of the nature of television material and the way it can be used on D101. A number of criticisms are made of the programme's methodology.

211 LAURILLARD, D. M. **DI02 Evaluation Report**

(Internal Report 1984)

The evaluation of D102 began in 1982, with a pilot study conducted by weekly questionnaires sent to small samples of students, and by interviews with individual students. The results of this study have reported in paper 212. The main purpose of the pilot study was to establish the most important issues for evaluation by a large-scale questionnaire survey. The present paper reports the results of the survey. A questionnaire was designed in collaboration with the course team chairman, on the basis of the pilot study, to gauge students' reactions to the course units, and audio-visual media, and to the content of the summer course. Questions were designed to yield both formative and summative evaluation data. The same data, together with further questions on the learning outcomes from the course, has also been used to inform the summative evaluation which is the subject of this report. The evaluation results are discussed in relation to three aspects of the course: the learning outcomes, the quality of teaching and the presentation.

212 LAURILLARD, D. M. **D102 Audio-Visual Media Evaluation (First Year Report)**

(Internal report 1982)

The report describes the first half of a two-year evaluation study of the use of AV media in the foundation level Social Science course. Analysis of qualitative interview and questionnaire data from small samples of students throughout the year has generated a range of different reactions to the course and the materials which will be quantified by a large scale survey in the second year. In addition the exploratory first year study has indicated the possibility of replicating and integrating findings from other research studies on learning and on audience reactions to television.

102 GALLAGHER, M. **Preliminary Report on Student Reactions to Economics Television Programmes (D222)**

(Internal report, 1978 8 pages)

An evaluation of 4 television programmes on the Open University course Microeconomics (D222) is used as the basis of this report. The findings of the evaluation are briefly presented and discussed but the main purpose of this report is to make suggestions about future economics programmes covering content, level, integration with other course components and their accompanying broadcast notes.

151 **DURBRIDGE, N.** **Audio-Cassette Usage on D284, T341 & M211**

(Internal paper 1980)

A paper which looks at students' use and ratings of audio-cassettes when used as the sole audio component of three post-foundation courses. It continues the study of audio-cassettes begun in paper 139 (later in this section). The paper draws upon this early report and seeks to provide a general overview of current audio-cassette usage and students' high opinion of the medium, to recommend certain approaches which appeared particularly successful, and to provide detailed feedback to the course teams involved. [Radio&Audio] [StudentUsage]

281 **BATES, A. W.** **A Mid-way Report on the Evaluation of DT200**

(*International Conference on Computer Mediated Communication in Distance Education,* Milton Keynes 1988)

This is a collection of the transparencies used to present a talk at the Computer Mediated Communication in Distance Learning Education. It is an interim report and may be substantially amended when the full results and analysis of the DT200 evaluation are available.

190 **BROWN, D. H.** **E200 Contemporary Issues in Education: An Evaluation of the Television and Radio Components**

(Internal report 1982)

Student reactions to the television and radio components of this course were collected during its first year of presentation. Despite a generally very positive response from students the results reinforced the need to develop the educational context within which programmes must function. Several dangers were identified in adopting the strategy of leaving it to broadcast

notes to provide the integration between the printed course units and the broadcast material.

145 **GRUNDIN, H.** **Cognitive Development: Language and Thinking from Birth to Adolescence: E362 A Course Review**

(Internal paper 1980)

A brief analysis of information compiled on the audio-visual media component, discussing the course's use of television, radio, records/cassettes and other forms of media used.

198 **DURBRIDGE, N.** **EM235: Developing Mathematical Thinking**

(Internal report 1982)

This report was prepared for the EM235 course team, and presents research results based on student observation and interview data. EM235 was the first OU course to use specially prepared video cassettes as a course component. The report discusses the ways in which students used the medium, looking both at group work and individuals, and presents feedback on their response to the first 6 videos in this course.

208 **DURBRIDGE, N.** **Real-Life Film on Video: A Case Study of Video Cassette Usage on EM235 Developing Mathematical Thinking**

(Internal paper 1982 20 pages)

This paper describes the use of video on EM235 from the design perspective, and discusses students' responses and attitudes to the medium and to the particular teaching strategies underlying EM235 video structure. The paper contains some very helpful and thought provoking comments for readers thinking of making use of video material in courses. [Video] [StudentUsage]

101 **MORGAN, F.** **Evaluation Report on Media Components of Mathematics Foundation Course M101**

(Internal Report, 1978 96 pages)

A report based largely on a questionnaire survey of student attitudes to the Mathematics Foundation Course and its various components. The aim of this study was to measure how successful the media components were and to discover what aspects of their production and use contributed to their success. In general, television programmes and audio-cassettes were as successful as the units and tutorials, being well-integrated, well-produced and readily

accessible. Radio programmes on the other hand were not seen to be central to the course, nor well-produced nor straightforward to use.

TCC 9 **DURBRIDGE, N.** **Using Audio-Vision to Teach Mathematics**

(A later draft of this paper published in E. Henderson and M. Nathenson (eds.) Independent Learning in Higher Education, Englewood Cliffs, 1984)

This paper examines the use of a combination of media - sound and vision - to encourage active and participative learning. The example is taken from an Open University course, *Introduction to Pure Mathematics*, in which audio-cassettes are combined with visuals, consisting of hand-drawn diagrams bound into the course's correspondence texts. The paper concludes with a brief evaluation of this audio-vision component of the course. [Radio&Audio]

205 **BROWN, S.** **An Analysis of the Project Guide for MST204: Mathematical Models and Methods**

(Internal report 1985 8 pages)

MST204 is an interfaculty second level course which aims to teach how to use mathematics to solve real-world problems. Half the course is about representing suitable aspects of the real world by means of some mathematical model, the other half is about mathematical methods that are useful in working with such models. During the course the students spend 40 hours working on a project which involves modelling a real world problem mathematically. Students are required to use mathematical modelling to help solve their chosen problem, to test their conclusions against real data, improving the model where necessary, and to write a report. The course contains a project guide for students consisting of a printed text, an audio-cassette and four television programmes. This report is the author's own analysis of the text, the audio-tape and one of the television programmes: *The Modelling Game*. It is suggested that overall, the guide is well presented and integrates effectively the three media used. Nevertheless, there are reservations about the suitability of the function allocated to the television broadcast and suggestions are made for alternative ways of using the programme to increase its effectiveness.

248 **DURBRIDGE, N.** **Report to MST322 Course Team on Student Use and Opinion of Video Modules 1 and 2**

(Internal paper, 1984 10 pages)

This ten page report focuses on three main issues: First, students' attitude to the video medium per se; secondly, their opinion of the two very different kinds of video content used on this course on Mathematical Methods and Fluid Mechanics; thirdly, the cognitive and practical problems many students experience when (as here) video material is mailed to their homes.

The report draws on a mixture of student feedback but relies most heavily on data collected by interview and observation. It is in two parts; the second focuses on the major problem revealed by the study, that of the inconvenience to many students of receiving OU course material on video by direct mailing. Part one, on the other hand, focuses on a comparison between students' opinion of (a) video used to introduce some fundamental course concepts (generally very positive, and particularly praising the effective value of visual material) and (b) video used to present scientific experiments but also inviting student participation via interim exercises (less well received). The problem of access is seen as influencing students' attitudes to these two kinds of programmes.

98 **BERRIGAN, F.** **Report on Students' Use of Broadcasting on P911: *The First Years of Life***

(Internal report, 1978 31 pages)

A study of the viewing and listening data collected from students taking this short course in 1977. A questionnaire survey was used and this report covers both the pre-coded answers and some general features of the open-ended responses collected. Thus the report contains tables and an overview of students' expectations of broadcasting, the value they placed on programmes and reasons given for ratings on usefulness.

99 **BERRIGAN, F.** **Report on Students' Use of Broadcasting on P912: *The Pre-School Child***

(Internal report, 1978 23 pages)

This report is in parallel with the one on short course P911 (report 98). Data collected by a questionnaire survey of students is presented in tabular form and discussed in general terms. Again there is quantifiable data on viewing and listening figures, preferences as to viewing times and on the number of repeat transmissions watched, as well as an overview of open-ended responses aimed at exploring students' opinions and expectations of broadcasting in the Open University context.

103 **HOOTON, S.** **A Report on Two Short Courses for Parents - P11 & P12**

(*Visual Education*, May, 1978, 4 pages)

Open University short courses differ in several ways from undergraduate courses, being tailored to the individual, and in a magazine type format. This paper summarises some of these differences, reports on the success of the radio and television components on two courses for parents and discusses the potential audience for this apparently popular type of course.

139 **DURBRIDGE, N.** **S101 Radio Programmes I-9 and Audio-Cassettes 90 and 9I**

(Internal report 1980)

This paper describes how both live radio and audio-cassettes were used on S101, the Science Foundation course. It analyses questionnaire data collected from students in its first year of presentation, discussing and comparing students' use of and attitudes to the two components. It discusses the general success of S101 strategy, distinguishing between the roles played by each medium and suggests that although radio was less used and less well rated than were audio-cassettes, that it nevertheless served a useful and valuable role for a majority of students. [Radio&Audio] [StudentUsage]

146 **BATES, A. W.** **Science: A Foundation Course: S101 A Course Review**

(Internal paper 1980)

A brief analysis of information compiled on the audio-visual media component, discussing the course's use of television, radio, records/cassettes and other forms of media used.

148 **BATES, A. W.** **Understanding Space and Time: S354 A Course Review**

(Internal paper 1980)

A brief analysis of information compiled on the audio-visual media component, discussing the course's use of television, radio, records/cassettes and other forms of media used.

137 **BROWN, S.** **T101 Living with Technology Broadcast and Audio-vision Evaluation**

(Internal paper 1980 5 pages)

The T101 Living with Technology broadcast and audio-vision evaluation project covers the television, radio and cassette-vision components of the

new Technology Foundation Course. It is one part of the 2+6 evaluation programme of this entire course aimed at improving its teaching effectiveness. Questions to test students' attitudes and performance are asked via close-ended computer marked questionnaires, open-ended questionnaires and interviews.

154-162 **BROWN, S.** **T101 2+6 Evaluation Reports on the Broadcasts and Cassette-vision Packages: Blocks 1-6**

(Internal papers, 1980)

These papers are a series of evaluation reports on the broadcasts and cassette-vision packages used in the new technology faculty foundation course T101 Living with Technology. Paper 155 describes the background to the study and the others report on the findings and recommendations made for improvements on a block by block basis.

163 **BROWN, S.** **T101 2+6 Rewrite: The Integration of Audio-visual Media with Texts**

(Internal paper 1980)

This paper discusses the opportunity presented by the rewrite of T101 Living with Technology to integrate the audio-visual components with the course texts. (See also Reports 154-162.)

187 **BROWN, S.** **T101 2+6 Evaluation: Final Report on the Use of Audio-visual Media in the First Year of Presentation**

(Internal paper 1982)

In may 1973 the course team of the new Technology Faculty foundation course T101 Living with Technology decided to adopt a 2+6 mode of presentation for the course. The Institutional Research and Development Committee of the Open University granted the course team £11,790 towards the cost of evaluating the first version of the course. The evaluation of the audio-visual components was carried out by Stephen Brown, a course co-ordinator on T101 from the Technology faculty, with the advice and assistance of Hans Grundin, Gill Kirkup and Mike Nathenson of IET.

214 **BROWN, S.** **T101 "2+6" Evaluation: A review of the effectiveness of the audio-visual components in the revised version of the course**

(Internal report 1983)

The new technology foundation course T101: Living with Technology was first presented in 1980. During that year feedback on its educational effectiveness was gathered and used as a basis for recommending improvements to the course. The revised version of the course was presented in 1982 and re-evaluated. The 1980 findings showed that the television and radio broadcasts were not successful components of the course and the evaluation reports recommended a combined strategy of remaking programmes and integration of programmes with the course texts to improve students' understanding of the programmes' contents and perceptions of their relevance to the course. Most of the evaluation recommendations were not adopted by the revision course team. The 1982 evaluation findings show that the broadcasts continue to be unsatisfactory components of the course and the least satisfactory of al' foundation course broadcasts. The reasons for this appear to be the same as in 1980: difficulties of interpretation and low perceived relevance of programmes. Where there were changes based on the earlier evaluation findings there have been improvements in the educational effectiveness of the broadcasts.

188 **BROWN, S.** **A Summary of the Recommendations Made for Changes to T101 Audio-visual Media**

(Internal report 1982)

This paper presents a summary of the findings for each of the television, radio and cassette-vision components of T101 in its first year of presentation (1980). It also summarises the detailed recommendations made for changes to each of these components. For a more detailed analysis of each programme or package see Reports Nos. 154-162 inclusive. For an overview of the effectiveness of the use of audio-visual media in T101 see Report No. 187 (above).

(3) EVALUATIONS OF INDIVIDUAL PROGRAMMES

59 **KOUMI, J.** **Catering for the Individual Differences Among Open University Students - Theme 1: Research and Evaluation Findings**

(In A. W. Bates and J. Robinson (eds.) Evaluating Educational Television and Radio, OU Press, 1977 17 pages)

This report summarises the evaluation of a radio programme transmitted on the third level Art Course on the Nineteenth Century Novel. The format of the programme was unusual in that it involved a student discussion about studying novels rather than presenting an expert opinion - and was disliked by the majority of listeners. The emphasis of the report is on the significant differences found between students studying the course in terms of their

personal circumstances, intellectual abilities and learning styles. A number of suggestions are offered as to how future programmes might be presented in order to benefit and appeal to a wide variety of students.

225 **SALOMON, G.** **Using Television as a Unique Teaching Resource for OU courses: Comments on some TV programmes designed for D102 and M101**

(Internal paper 1983 12 pages)

Considering the cost of TV programmes, the author suggests that it is reasonable to let them do what they do best - visually illustrate, dramatise, concretise and supplant dynamic images without which certain abstract concepts cannot be well understood. Focusing on three (relatively) unique potentialities of TV (illustration, dramatisation and supplantation) and using the programmes for D102 and M101 as examples, the author discusses the importance of helping the student to abstract out of visual information the particular messages which were intended. [StudentUsage] [TV] [ResearchMethod]

251 **DURBRIDGE, N.** **Integrating Television and Audio-Cassettes: A Case Study of TV6, E206 Personality Development and Learning**

(Internal report 1985 9 pages)

This paper describes the closely worked connections between text, television and audio-cassette materials on one section of E206. It discusses students' favourable responses to the use of Audio-Vision (cassette with extensive notes) as a means of examining broadcast television content. [Multi-media&CD]

142 **BATES, A. W.** **Pacing of TV Programmes: Analysis (M231)**

(Internal memo 1980)

This memo is in answer to a query raised by Professor O. Penrose: 'Are mathematics programmes generally too fast in pace?' [TV]

131 **BERRIGAN, F., & MARCUS, R.** **Understanding Space and Time (S354) TV2: As Surely As Columbus Saw America**

(Internal paper 1980)

This is the first of five reports on the evaluations of individual programmes from the S354 television series. The programmes are unusual in that they have been co-produced by the Open University with the University of California for use by both bodies. The evaluation is primarily intended to assess how useful the programmes are to Open University students, bearing in mind that they have also been designed to serve the needs of students 'on-campus' at the University of California, and also for larger audiences via the PBS State Television Network. There is a final report on the collaboration process between the Open University and the University of California. See also papers 132 - 136.

132 **MARCUS, R. & BERRIGAN, F.** **Understanding Space and Time (S354) TV7: $E = mc^2$**

(Internal paper 1980)

The second of five reports on evaluations of individual programmes from the S354 series, culminating in a final report on the co-production of the programmes. See abstract 131.

133 **MARCUS, R.** **Understanding Space and Time (S354) TV8: Through the Looking Glass**

(Internal paper 1980 29 pages)

The third of five reports on evaluations of individual programmes from the S354 series, culminating in a final report on the co-production of the programmes. Refer to abstract 131 for details.

134 **MARCUS, R.** **Understanding Space and Time (S354) TV11: A Matter of Geometry**

(Internal paper 1980 14 pages)

The fourth of five reports on evaluations of individual programmes from the S354 series, culminating in a final report on the co-production of the programmes. Refer to abstract 131 for details.

135 **MARCUS, R. & DICKINSON, R.** **Understanding Space and Time (S354) TV15: Vanished Brilliance**

(Internal report, 1980 4 pages)

The last of five reports on evaluations of individual programmes from the S354 series, culminating in a final report on the co-production of the programmes. Refer to abstract 131 for details.

136 **MARCUS, R.** **The Co-Production of the S354 Television Series**

(Internal report 1980 12 pages)

The television programmes for the S354 course *Understanding Space and Time* were produced in collaboration with the University of California. There have been five reports on individual programmes from the series (papers 131 - 135). This final report looks at the process behind the co-production and considers its effectiveness, with particular regard to the needs of the Open University student.

226 LAURILLARD, D. M. **Interactive Video-Cassette Feasibility Study: Formative Evaluation Report on *Signals* (T101)**

(Internal Paper 1983 9 pages)

Interactive video can refer to a variety of different ways of controlling the presentation of video teaching material. The most common usage refers to the computer control, through an interface board, of a videodisc player, or a video-cassette player. The existence of this form of interfacing provides a new teaching media combination of computer-assisted learning (CAL) and video. [InteractiveVideo]

STUDENT USAGE

SUB-SECTIONS:

(1) Transmission Times and Viewing Opportunity
(2) Setting Assignments on Broadcast Material
(3) Learning from Broadcasts
(4) Utilisation

Papers on utilisation (how media are used) and broadcast policy are closely linked. However, in this section, the papers concentrate on studies which have tried to discover exactly how students use television and radio in our courses, and the problems they have encountered. These papers in particular are concerned with, for example, the times at which OU students can (or will) not watch; the question of whether or not students should be directly assessed on broadcast material; how to help students learn from broadcast material; and information about how students actually use AV materials.

For broadcasting surveys see **[Broadcasting]**. For evaluations of courses, AV media components of course and individual programmes, see **[Evaluation]**. For papers on research methodology see **[ResearchMethod]**.

(1) TRANSMISSION TIMES AND VIEWING OPPORTUNITY

9 **BATES, A. W. & McINTOSH, N. E.** **Student Access to Audio-visual Material**

(Internal memo 1972 2 pages)

A report of research findings based on student listening and viewing figures in 1972 indicating the limits of useable transmission hours.

10 **BATES, A. W.** **Students' Preferences for Audio-visual Material**

(Internal memo 1972)

An early report based on student questionnaire responses, which looks at the 1972 viewing and listening figures and comments upon student preferences as to broadcast timings. For more recent information see papers 93 (below) and 114 in [Radio&Audio].

93 GRUNDIN, H. **The Effect of Transmission Times on Students' Use of OU Broadcasts**

(Internal paper 1978)

This paper analyses in some technical detail how viewing rates are affected by transmission time allocated to radio and television programmes. Factors such as the number of programmes transmitted on a course and variations in time-slot combinations are studied. The paper also looks at differences between faculty viewing and listening figures and offers some suggestions as to how viewing and listening rates should be interpreted. [Broadcasting] [Radio&Audio] [TV]

112 GRUNDIN, H. **On Broadcasting Times: A Study of Viewing and Listening Opportunities in 1978-79 and in the Future**

(Internal paper 1979)

This report presents the results of a survey carried out in 1978 to collect data on the times during which students are usually able to watch or listen to Open University broadcasts. An analysis is made of viewing and listening opportunities which suggests a trend for these to be decreasing for newly recruited students; also examined are the implications of future transmission time allocation for listening and viewing opportunity. [Broadcasting]

149a GRUNDIN, H. **Assessment of the BBC television times proposal in terms of viewing opportunities for 1982 transmissions**

(Internal paper, 1980)

This paper provides a brief analysis of viewing opportunities for students taken from the 1979 Broadcast Survey and an assessment for the likely impact on viewing of the proposed transmission times for 1982. [Broadcasting]

169 GRUNDIN, H. **Viewing Opportunity: A Discussion of the Concept, and of Variations Between Faculties in the Opportunity Values of Different Time Slots**

(Internal paper 1980)

This paper discusses some problems involved in refining 'viewing opportunity', and analyses differences between faculties in the suitability of various television time slots. It is pointed out that differences between faculties are affected by students' attitudes to broadcasts, and also by sex differences. [Broadcasting]

171 GRUNDIN, H. **Open University Broadcasting Times and their Impact on Students' Viewing/Listening**

(Internal report 1981)

This paper shows how the viewing/listening opportunities provided by available time slots set a limit for the actual viewing/listening figures that can be achieved, and also how the provision of repeats may have only a marginal effect on viewing/listening opportunity. [Broadcasting]

(2) SETTING ASSIGNMENTS ON BROADCAST MATERIAL

14 BATES, A. W. **An Evaluation of the Effect of Basing an Assignment on Broadcast Material in a Multi-media Course**

(*Programmed Learning and Educational Technology*, Vol. 10, No. 4, 1973)

Open University courses (except in Science) are generally designed so that students who cannot receive the broadcast component can nevertheless still gain course credits, through assessments, even if they do not see or listen to the broadcasts. This policy has unintentionally placed significant limitations on the way broadcasting can be used. To test the effect of changing this policy, one assignment was set based partly on broadcast material which did in fact count towards assessment in an Educational Studies course. Not surprisingly, students found the programmes linked with this unit the most useful of any in the three Educational Studies courses in 1972. More significant, however, were the difficulties that arose from the need to ensure that all the relevant materials reached the students in time and the reactions of students when put under pressure by assessment requirements to view and listen to broadcasts. The implications of the findings are discussed, both in terms of methods of evaluation and the design and assessment of multi-media courses. [Broadcasting]

164 BATES, A. W. **Should Assignments be Set on Broadcasting Components?**

(Internal memo 1975 4 pages)

In response to a request from the Exams and Assessment Committee, this paper provides factual information about student access to broadcasts, discusses policy issues involved, and puts forward recommendations (see also papers 14 and 66). [Broadcasting]

66 KERN, L. **Basing Assignments on Broadcasts**

(Internal paper to Exams and Assessment Committee, 1976)

This paper raises a number of difficulties which may arise and need attention where a Course Team chooses to use broadcasts for assessment purposes and suggests various appropriate courses of action. [Broadcasting]

78 KERN, L. **Student Feedback on Broadcast CMA Questions: An Interim Report**

(Internal memorandum to D204 Course Team 1977)

This brief report summarizes the results of discussions held with D204 (a course on Human Geography) students about their broadcasts and in particular about the use of CMA questions on broadcast material. The appendices are long and contain the transcripts of discussions held. The summary highlights a number of problems and suggests possible solutions to the Course Team. [Broadcasting]

(3) LEARNING FROM BROADCASTS

17 BATES, A. W. **Problems of Broadcasting: A Guide to Tutors**

(Teaching by Correspondence in the Open University, Milton Keynes, 1973)

This paper offers some general guidelines to Open University tutors on the use of broadcasts as a teaching medium. It discusses the functions of programmes (in particular those which present case-studies), student expectations of television, and some problems of visual evidence, and how the emotional impact of television may affect its educational aims. [Broadcasting] [Multi-media&CD]

69 KERN, L. **Using Broadcast Notes in Distance Teaching**

(Internal paper 1976)

This paper argues that broadcast notes can play a valuable organisational role at the Open University in helping students to use their programmes more effectively. A number of suggestions are made as to content and layout, the particular emphasis being on the need for notes to include advice on preparation and re-inforcement activities as well as a brief record of programmes. [Broadcasting] [Text]

71 GALLAGHER, M. **How to Use Broadcasts: Briefing and Training of Students and Part-time Staff**

(Internal discussion paper 1976)

The purpose of this brief paper was to initiate discussion of possibilities for the provision of briefing and training to students and part-time staff in the use of broadcasts and broadcast-related material. It examines the need for such provision and makes some initial proposals as to how it might be made. [Broadcasting]

86 GALLAGHER, M. **Using Broadcasts in the Social Sciences**

(*Teaching at a Distance*, No. 10 1977)

This paper summarizes points of general consensus arising from a seminar on the use of broadcasting in the Social Science Faculty. The role of part-time staff in relation to broadcasts and perceptions of good and bad television formed major areas of discussion. [Broadcasting]

88 GALLAGHER, M. **Audio-visual Media for Teaching and Training: The Contribution of Research**

(In J. Hegarty & S. Winter (eds.) Educating the Trainers, University of Keele, 1978)

A paper which argues that research into the use of audio-visual media for teaching purposes focuses most usefully on two ways of ensuring that students learn from what is intended to be learnt from a particular broadcast. This involves teaching visual and literacy skills, in particular developing in students a particular attitude to the media. Open University research has led to the formulation of five broad functional categories which appear to be particularly relevant to its teaching systems. The programmes transmitted on a course The Handicapped Person in Society are discussed to illustrate some of these functions and the problems students experience in relation to them. [ResearchMethod]

119 BROWN, D. H. **Helping Students to Learn Through Television and Radio**

(*Visual Education*, Sept. 1979 2 pages)

Several research projects have demonstrated that not all Open University students possess the skills necessary to make full use of the radio and television components of their courses. Partly as a result of this research evidence a decision was made to produce a package of materials to help

students develop these skills. This paper is a report of the development of these materials by people from throughout the Open University, including Producers from the BBC/Open University Production Centre.
[TV] [Radio&Audio] [Broadcasting]

AVPACK1 VARIOUS AUTHORS **Learning from Television: A Study Package (1981)**

The reasons behind the development of these materials for use by students and staff of the Open University are outlined in paper 119. The package consists of a handbook together with supporting video-cassette containing extracts from Open University television programmes. These materials illustrate the different responses which the varied programme formats demand from users. [Broadcasting] [TV]

140 **DURBRIDGE, N.** **Problems of Using Television for Teaching Adults**

(*SIAE Annual Conference*, University of Stirling, June 1980)

The use of educational television requires special skills in both teachers and students. The experience and research results of the Open University are used as a basis to discuss some of the problems associated with learning from television, and the paper outlines the origins and implications of a package of learning materials, developed and designed by the Open University to try and overcome these problems.

225 **SALOMON, G.** **Using Television as a Unique Teaching Resource for OU courses: Comments on some TV programmes designed for D102 and M101**

(Internal paper 1983 12 pages)

Considering the cost of TV programmes, the author suggests that it is reasonable to let them do what they do best - visually illustrate, dramatise, concretise and supplant dynamic images without which certain abstract concepts cannot be well understood. Focusing on three (relatively) unique potentialities of TV (illustration, dramatisation and supplantation) and using the programmes for D102 and M101 as examples, the author discusses the importance of helping the student to abstract out of visual information the particular messages which were intended. [TV] [Evaluation] [ResearchMethod]

28 **BATES, A. W.** **Problems of Learning from Television at a Distance**

(Conference on *Frontiers in Education* London: Institute of Electrical Engineers, 1974 6 pages)

Television at the Open University is used in a planned way with other media such as correspondence texts. This paper discusses how research at the University is used to identify and suggest solutions to a number of problems related to its usage, and in particular how a study of the nature and function of broadcasts allows us to test assumptions about the way students react to them and to suggest possible ways of improving their value. [ResearchMethod] [TV] [Broadcasting]

91 GALLAGHER, M. **Good Television and Good Teaching: Some Tensions in Educational Practice**

(in *Educational Broadcasting*, Vol. 11 No. 3 1978 8 pages)

This paper argues that the Open University since its inception has not developed a distinctive style of teaching by television, and that the pedagogic functions of the medium have not been explored and improved as much as other teaching components. The argument hinges on a distinction drawn between 'good television' (i.e. technically sophisticated and 'interesting' programmes) and 'good television in the educational context'. The discussion is illustrated by references to 'documentary style' programmes in particular; it is suggested for example, that students may need assistance, preferably within such programmes, if these are to achieve their pedagogical objectives. [Broadcasting] [TV]

176 DURBRIDGE, N. **The Adult Learner and Educational Television**

(Internal paper, 1981, 10 pages)

The use of educational television requires special skills in both teachers and students. The experience and research results of the Open University are used as a basis to discuss some of the problems associated with learning from television, and the paper outlines the origins and implications of a package of learning materials, developed and designed by the Open University to try and overcome these problems. [TV]

P3 LAURILLARD, D. **Mediating the Message: Programme Design and Students' Understanding**

(To be published in *Instructional Science* 1991)

The research reported aims to describe some aspects of how students learn from television programmes. It was based on observation, interview and test

data from five groups of 20-30 Open University students, each watching a social science television programme as part of their course. A qualitative analysis of students' summaries of the programmes showed that only half achieved the intended learning outcomes. A further analysis of the students' responses to key extracts showed that this is more likely to be because of programme structure than because of presentational quality. The research design and results are related to similar studies on students learning from text, and contrasted with the methodology adopted in other studies of the effects of educational television. [TV] [ResearchMethod]

(4) UTILISATION

73 BERRIGAN, F. **Preliminary Notes on Student Use of Broadcasts**

(Internal paper 1977 4 pages)

This paper provides a very brief but clear outline of what is known of student use of broadcasting material, and ways in which utilization is affected by study schedules, assignments, broadcast notes, workload and viewing/listening times. The information is confined to general patterns of usage. [Broadcasting]

110 KERN, L. **Results of Student Report on TD342 Broadcasting Component: Television Programmes 1, 2 & 3 and Radio Programme 1**

(Internal paper 1979)

A short questionnaire was prepared as a speedy but reliable means of collecting basic information from students on TD342 broadcasts. The specific area of interest was utilisation - that is, how students were using the material, were they taking notes, recording sound etc? Among the problems raised were awkward transmission hours, lengthy programme notes, and the posing of CMA questions on broadcasts.
[Broadcasting]

54 MEED, J. **The Use of Radio in Open University Course Design 1971-74**

(Milton Keynes, Open University 1976)

This survey is based on the actual use of radio in nearly 200 randomly sampled Open University programmes. It provides a useful classification - with examples of different teaching functions for radio when other media, such as television and print are also available. It also quantifies the frequency with which each type of programme was used. [Radio&Audio] [Multi-media&CD]

60 MEED, J. **The Use of Radio in the Open University Media Educational System 1971-74**

(In A. W. Bates and J. Robinson (eds.) Evaluating Educational Television and Radio OU Press 1977 11 pages)

Full results of the survey of the Use of Radio at the OU is available in paper 54, but the summary findings are discussed here. Brief background information is given on the role of radio, and the advice sent to students on the use of programmes, but the main section describes the methodology of the survey and the various categories of teaching functions of radio which were extrapolated from the study. [Radio&Audio] [ResearchMethod]

108 BROWN, D.H. **Student Attitudes to Radio**

(Interim Report, internal paper 1979)

This report covers the data collected from the first part of a longitudinal study of student attitudes to the value of radio as an OU course component. Roughly 2000 student questionnaires were analysed and preliminary results suggest that more students were concerned that they might have difficulty studying from radio than some other course components, although there is no evidence that they were very negatively predisposed to its use. However, there were marked differences between students in their use of general programming, Maths, Science and Technology students in particular being less likely to have wide experience of listening to talks, drama, or documentary programmes. [Radio&Audio]

115 BROWN, D.H. **New Students and Radio at the Open University**

(*Educational Broadcasting International* Vol. 12, No. 3, 1979)

Intended for a wider audience than the original (paper number 108) this paper summarises the findings from a study of the use of general service radio by over 2,000 new students before beginning their first Open University course. The findings suggest that there is a strong link between the breadth of programme types experienced by students before joining the University and the extent of radio use in introducing courses. These variations in the experience of radio before joining the University has implications for the format of radio programming within these courses. [Radio&Audio]

152 BROWN, D. H. **Summary of Student attitudes to Radio (Final Report)**

(Internal paper 1980 3 pages)

This is the final report of a study previously outlined in an interim report (paper 108). It is concerned with the use of radio by students taking the introductory Open University courses. The attitudes to radio and experience of radio programming with which students began their courses was also analysed together with their rating of its value as a course component. [Radio&Audio]

185 **VARIOUS AUTHORS** **Radio: The Forgotten Medium? Studies in the Use of Radio Programming and Audio-cassettes in Open University Courses**

(The Open University, Milton Keynes, 1982)

Set up originally to investigate the generally low utilisation of radio by OU students, and wide individual student differences in the use of radio, the study was widened to include the use of audio-cassettes as well. The study covers trends in the use and costs of radio and cassettes from 1978-82, student attitudes to and use of radio before commencing OU studies, an analysis of 71 radio programmes, students' in-depth reactions to 29 radio programmes, the use of cassettes and use of radio when cassettes are also available. The study showed that cassettes had both educational and cost advantages over radio for many of its courses, but nevertheless radio still had valuable roles to play but these were dependent on substantial improvement in the quality of transmission times. [Radio&Audio]

185a **VARIOUS AUTHORS** **Radio: The Forgotten Medium? Section 8 - Executive Summary**

(The Open University, Milton Keynes, 1982)

As report number 180 is rather long, this section is available separately and may be sufficient for some readers. [Radio&Audio]

139 **DURBRIDGE, N.** **S101 Radio Programmes 1-9 and Audio-Cassettes 90 and 91**

(Internal report 1980)

This paper describes how both live radio and audio-cassettes were used on S101, the Science Foundation course. It analyses questionnaire data collected from students in its first year of presentation, discussing and comparing students' use of and attitudes to the two components. It discusses the general success of S101 strategy, distinguishing between the roles played by each medium and suggests that although radio was less used and less well rated

than were audio-cassettes, that it nevertheless served a useful and valuable role for a majority of students. [Evaluation] [Radio&Audio]

151 **DURBRIDGE, N.** **Audio-Cassette Usage on D284, T341 & M211**

(Internal paper 1980)

A paper which looks at students' use and ratings of audio-cassettes when used as the sole audio component of three post-foundation courses. It continues the study of audio-cassettes begun in paper 139. The paper draws upon this early report and seeks to provide a general overview of current audio-cassette usage and students' high opinion of the medium, to recommend certain approaches which appeared particularly successful, and to provide detailed feedback to the course teams involved. [Evaluation] [Radio&Audio]

208 **DURBRIDGE, N.** **Real-Life Film on Video: A Case Study of Video Cassette Usage on EM235 Developing Mathematical Thinking**

(Internal paper 1982 20 pages)

This paper describes the use of video on EM235 from the design perspective, and discusses students' responses and attitudes to the medium and to the particular teaching strategies underlying EM235 video structure. The paper contains some very helpful and thought provoking comments for readers thinking of making use of video material in courses. [Video] [Evaluation]

186 **GRUNDIN, H.** **Factors Influencing Viewing and Listening Rates Among OU Undergraduates**

(Internal paper 1982)

The paper presents results of correlations and regression analysis carried out on data from the 1979 and 1980 AV Media Surveys (a total of 108 courses). It is shown that television and radio differ in that viewing is more influenced by the opportunities offered (number of transmissions and times) than is listening. One consequence of this is that TV repeats are not, in themselves, important as long as the level of viewing opportunity is high. Various indices of successful use of broadcasts are studied and it is shown that each of these indices can be valuable depending on the circumstances: (i) viewing/listening rate; (ii) helpfulness rating; and (iii) a new 'audience-attraction' index. An appendix gives these indices for all 108 courses surveyed in 1979-80. [Broadcasting] [TV] [Radio&Audio] [ResearchMethod]

SRC17 **TOMPKINS, K. & CROOKS, B.** **A Review of the Extent and Pattern of Use of Video-Cassettes in the**

Undergraduate Programme and the Continuing Education Area 1988

(Internal report 1988)

This document is a review of the extent and pattern of use of video-cassettes in the Undergraduate Programme and the Continuing Education Area of the Open University in 1988. It is intended to provide background information for the current review of the University's policy on the role of broadcasting and audio-visual material. The first section of the report defines what is meant by video-cassette material. The following two sections present an analysis of the overall pattern of video-cassette use; the methods of distribution of video-cassette material, the conditions under which video-cassettes are used by students; the quantity of video-cassettes produced by different production centres and the total of hours of viewing material available by both broadcast and video-cassette for both the Undergraduate Programme and the Continuing Education Area. The last section consists of a summary of findings and a discussion of the comparision of video-cassette use in these two areas. Finally there are recommendations concerning the University's policy towards video-cassette production in the Undergraduate Programme. [Video] [Broadcasting]

SRC27 WOMPHREY, R. **Report to the Technology Faculty Courses Committee - Technology courses in first presentation 1985-1988**

(Internal report 1989)

In this paper are reviewed the principal findings from student feedback, collected by the Student Research Centre in I.E.T. The aim is to present the students' attitudes to the components of the courses and their views on some other issues. The feedback was collected from the students at the end of the respective courses, immediately after the examination. The report provides a comparative evaluation of the various media used in the courses. [Evaluation]

RESEARCH METHODOLOGY

SUB-SECTIONS:

(1) Evaluation in Distance Learning Systems
(2) Open University Broadcasting Research
(3) Approaches to Research
- **(3a) Decision Oriented Research**
- **(3b) Formative and Summative Evaluation**
- **(3c) Developmental Testing of AV Material**
- **(3d) Contextual Evaluation**
- **(3e) Survey Methods**
- **(3f) Protocol Analysis**
- **(3g) Content Analysis**

(4) Investigating Learning from Media
(5) Research Support

It was necessary for us to develop our own methodological approach appropriate to the needs of a distance education system. We have had few relevant models to follow and consequently our methods are different from much other research in this area and hence somewhat controversial. For this reason we have found it necessary to give a good deal of attention to methodological issues. This section should be of particular interest to those concerned with research or evaluation of either audio-visual media or distance learning systems. For specific examples of these methods in use, see **[Evaluation] [StudentUsage] [Broadcasting].**

(1) EVALUATION IN DISTANCE LEARNING SYSTEMS

25 **BATES, A.W., HAWKRIDGE, D., & HENDERSON, E.** **Evaluating the British Open University's Teaching**

(Educational Media Yearbook 1982, Colorado Libraries Unlimited)

One of the principal tasks of the British Open University's Institute of Educational Technology is to continuously evaluate the University's multi-media teaching, which started in 1971. Here we report critically on two aspects of the program: (1) evaluative studies of the television and radio broadcasts, and (2) evaluation of individual courses and their components during presentation. We describe something of the institute's procedures and the problems they engender, and discuss the kinds of findings they provide.

Finally, we cover some successes and failures at the university when the time has come to implement the findings. [Broadcasting]

67 **BATES, A. W.** **Some Comments on the Preliminary Report on Institutional Research**

(Internal report 1976 29 pages)

A paper which argues for some radical changes in the system of organising funding and controlling of institutional research at the Open University. In particular it claims a need for a coherent and professionally based policy behind institutional research and proposes number of principles and structures. [Plans]

68 **BATES, A. W.** **The Effectiveness of Educational Broadcasting in Western Europe**

(Article for *Etudes de radio-television*, No. 22, RTN, Brussels, Belgium 1976)

This paper argues that there are not enough studies completed that provide accurate and reliable information about the actual effect of broadcasts on learners, to show clearly that educational broadcasting is effective, given the level of expenditure and the amount of production involved. The author looks at a number of studies and suggests that the absence of convincing evidence on effectiveness could be damaging to the future prospects of educational broadcasting, despite good economic, social and political arguments for its use.

75 **BATES, A. W.** **An Introduction to the Scope of and Limitation of Evaluation Research in Distance Learning Systems**

(presented at a German-British Seminar, Cologne, Germany, 1977)

This paper argues that distance learning systems require evaluative research to be deliberately organised for two reasons: the separation of the course designers from learners and the unique nature of each distance learning system. Examples of Open University evaluative research into broadcasting are given to illustrate the need for pervasive studies which operate both at course design level and at an overall institutional and policy-making level.

172 **BATES, A. W.** **Towards a Better Research Framework for Evaluating the Effectiveness of Educational Media**

(*British Journal of Educational Technology*, Vol. 12, No. 3, 1981)

This is a detailed critique of current methods of media research. It criticises the undue emphasis on classical laboratory controlled research as being both unscientific and impractical. The paper argues for evaluative research methods more suitable to the various kinds of decision which have to be made in educational media systems, and provides examples of more suitable methods.

181 **BATES, A. W.** **Evaluation on a Tight Budget**

(*Educational Broadcasting International*, Vol. 14, No. 3, 1981)

This paper argues that many educational broadcasting units in developing countries lack an effective evaluation programme, not because of costs, but because of a lack of will. The article shows how evaluation can help an educational broadcasting unit, suggests low-cost approaches to obtaining feedback both for producers and for managers, and discusses how evaluation can be paid for without significantly increasing budgets in overall terms.

65 **BATES, A. W. & ROBINSON, J.** **Evaluating Educational Television and Radio**

(OU Press 1976, available from OUEE, Open University)

This book brings together over 80 papers, and the main plenary presentations, of the first international conference on the evaluation of educational television and radio. There were participants from nearly 30 different countries, and the book contains papers from most of the leaders in the field, with an introduction by Wilbur Schramm. The papers are organised in four main sections: children's and schools' broadcasting; non-formal adult education; university and colleges; and the organisational context. [TV] [Radio&Audio]

122 **BATES, A. W.** **The Utility of Experimental Research in Video-taped Instruction**

(in J. Baggaley (ed.) Experimental Research in Instructional Television, St Johns Memorial University, 1980)

This paper questions the validity of the laboratory-based, controlled experimental research method for investigating the effectiveness of video-taped instruction. It points to a number of weaknesses inherent in the method, and draws on presentations from the seminar to illustrate these difficulties. [Video]

SRC21 WOODLEY, A. & KIRKWOOD, A.

Evaluation in Distance Learning

(Prepared for the International Extension College/Council for Educational Technology, Jan 1987)

Evaluation in the sense of "the systematic investigation of the worth or merit of some object" has several meanings within education. Its most common purpose is to grade and classify students, to sort out the successes from the failures. However, in this paper we are concerned with "Programme Evaluation", where the focus is on how well a particular educational programme, curriculum or teaching method works, how it might be improved and how it compares with alternatives. Today educational evaluation is a legitimate field of intellectual endeavour and has its own associations, journals, conferences and theorists. As in any other field, there are controversies and disputes as to the most appropriate aims, methods, theories, etc. To describe and debate the merits of each of the various paradigms in any detail would require far too much space. Instead we attempt to characterise two very different approaches which, while they are "ideal types", serve to indicate the major divisions within the field.

SRC35 MORGAN, A.

Whatever Happened to the Silent Scientific Revolution? - Research, Theory and Practice in Distance Education

(in T. D. Evans (ed.) Research in Distance Education, Deakin University Press, Geelong, Australia, 1990)

In this paper the author addresses the questions: how are research and evaluation projects planned; what theoretical basis (if any) provides a grounding for research studies and what is the dominant research tradition? The paper presents a debate about research theory and practice in distance education and argues that changes in research approach have occurred to some extent but that the paradigm shift promised by other researchers in the field has not yet materialised.

(2) OPEN UNIVERSITY BROADCASTING RESEARCH

1 BATES, A.W.

Exploring the Media

(Internal paper 1970)

The purpose of this paper is to draw attention to the role that research might play in determining the best use of the Open University's teaching media. The paper is deliberately loosely structured and is aimed at stimulating discussion about the functions of the various media in the Open University

teaching situation - a prerequisite for any enquiry into the role of television and radio in the Open University. [Multi-media&CD]

6 **BATES, A. W.** **Evaluation of Broadcasting at the Open University**

(in K. Austwick and N. Harris (eds) Aspects of Educational Technology VI, London, Pitman 1973)

This paper argues the need for evaluation of broadcasting at the Open University because of the expense and scarcity of this resource and briefly describes the OU facilities available for such research. The discussion then centres on the practical and theoretical problems involved in this evaluation process. [Broadcasting]

20 **BATES, A. W.** **Guide to feedback on Broadcasts**

(Internal memo 1973 34 pages)

A paper which describes the range of feedback resources available at the Open University, the useful information each method provides, its costs and relative advantages and disadvantages. [Broadcasting]

52 **BATES, A. W. & GALLAGHER, M.** **The Development of Research into Broadcasting at the Open University**

(*British Journal of Educational Technology*, Vol. 7, No. 1, 1976)

This paper describes the history of research into broadcasting at the Open University since its inception - discussing for example the range of projects set up, the selection of methodology and the problems, both pragmatic and financial, which were met. In the conclusion it is pointed out that many of the original questions put forward for research and, more seriously, basic problems about learning from television have yet to be investigated. [Broadcasting]

170 **BATES, A. W.** **Producer/Research Co-operation at the Open University**

(*Children's Television Workshop Bulletin*, New York, 1980)

This paper describes the relationship between researchers and producers at the Open University. Based on a short case-study of a co-operative project, the paper discusses the practical constraints, the research strategy, and the way the research findings were implemented. [Broadcasting]

(3) APPROACHES TO RESEARCH

In the following section various approaches to research are described. These are not mutually exclusive and a great deal of research into AV materials draws upon survey data collected via questionnaires and interviews (see [Evaluation] [StudentUsage] and [Broadcasting]). The approaches described here, however, represent innovative complementary methodologies for augmenting the basic data.

126 **BATES, A.W.** **A report on an exchange between researchers at the Open University and the University of Paris VIII on the structural analysis of educational television programmes**

Internal memo 1979

Genevieve Jacquinot, the senior researcher at Paris VIII, attended a conference organised by the Open University in 1976 where she presented a paper. Subsequently she published the book Image et Pedagogie. From these sources it was apparent that the French and British groups' work had much in common, although the methodology being used was rather different. A short exchange visit was arranged and this short paper provides an overview of that visit.

(3a) Decision Oriented Research

53 **BATES, A. W.** **The British Open University: Decision-orientated Research in Broadcasting**

(Presented at the *National Association of Educational Broadcasters' Convention*, Washington DC USA, 1975 13 pages)

This paper provides brief background information on the Open University system and explains how research into media usage at the University began because of a dearth of information at decision-making levels. The author describes the different information required at three levels, and give examples of media research work carried out at each: Course Teams for example need and use programme evaluations, managers need information to guide decisions as to resource allocations, and new multi-media institutions request overall organisational information. (See Paper 57 below.)

(3b) Formative and Summative Evaluation

57 **BATES, A. W.** **Towards a Policy for Broadcast Evaluation: Theme 3: Research and Decision Making**

(in A. W. Bates & J. Robinson (eds.) Evaluating Educational Television and Radio, 1977)

In this paper the author presents the case for both formative and summative research into educational broadcasting. He examines some of the reasons behind the lack of success research and evaluation have had in the past and urges the need for a more broadly based research. In particular he believes research is most effective when it is closely related to decision-making processes. He identifies three main decision-making levels at which research into broadcasting can have an input and draws mainly on Open University research to illustrate the impact work in these areas can have for bringing about long term improvement. (See Paper 53 above.)

100 **BATES, A. W. & GALLAGHER, M. (eds.)** **Try it First? Formative Evaluation of Educational Television Programmes: Three British Case Studies**

(Council for Educational Technology 1978)

This report contains three accounts of approaches used to pre-test television material, the aims of the pre-testing and arguments for and against the methodology used. A series of BBC programmes for the mentally handicapped, a pre-school series for Granada television and the testing of commercials make up the case studies. Open University experience with pre-testing is also discussed and the final section provides a very useful summary of the main points emerging from the seminar at which these accounts were presented. The report contains a useful bibliography for these interested in pursuing the idea of formative evaluation of educational programmes.

(3c) Developmental Testing of AV Material

72 **BERRIGAN, F.** **Developmental Test of Audio-visual Materials**

(*Journal of Educational Television*, 3, No. 2, 1977 5 pages)

Developmental testing of Open University multi-media packages as described in this paper is in its infancy, and a number of special problems surround the testing of audio-visual material. This paper concentrates on the pre-testing and evaluation of the radio component on a music course.

89 BROWN, D. **The Developmental Testing of A101: A Follow-Up Study**

(Internal paper 1978)

The purpose of this study was to gauge the reactions of members of the A101 Arts Foundation Course course team to the developmental testing of the broadcast component of that course. In this way the study would try to establish the extent to which the testing had been seen to be effective and to point to any apparent weakness in the method as it applied in this particular case. Using this material it was hoped to reach some conclusions about ways in which current approaches to the developmental testing of the broadcast component of courses might be strengthened.

118 BROWN, D. H. **Developmentally Testing the Television Component**

(*Journal of Educational Television* Vol. 5, No. 1, 1979 3 pages)

This paper is a summary of a follow-up study (paper 89) which gauged the reactions of an Open University Course Team to the developmental testing of the broadcast element of their course. The particular problems encountered in modifying the television component are identified and the paper concludes by suggesting the conditions which appear to be necessary for the broadcast component of an Open University course to be fully developmentally test, and if necessary, modified. [TV] [Broadcasting]

(3d) Contextual Evaluation

42 GALLAGHER, M. **Broadcast Evaluation: What can it tell us that we don't know already?**

(Internal paper 1975 16 pages)

This paper describes the approach taken at the OU towards broadcast evaluation as one which attempts to provide a range of detailed information about a programme's overall reception. In particular it is argued that useful research in this area involves a study of the whole OU context into which a broadcast is set. [Broadcasting]

58 GALLAGHER, M. **Programme Evaluation Methods at the Open University: Theme 2: Methodology**

(in A. W. Bates & J. Robinson (eds.) Evaluating Educational Television and Radio, 1977)

The policy of the audio-visual group at the Open University is to try and assist decision making about future programmes. The paper argues the limitations of traditional psychometric and experimental research into educational media and describes, with examples, an approach adopted at the OU which concentrates on contextual evaluation.

(3e) Survey Methods

186 GRUNDIN, H. **Factors Influencing Viewing and Listening Rates Among OU Undergraduates**

(Internal paper 1982)

The paper presents results of correlations and regression analysis carried out on data from the 1979 and 1980 AV Media Surveys (a total of 108 courses). It is shown that television and radio differ in that viewing is more influenced by the opportunities offered (number of transmissions and times) than is listening. One consequence of this is that TV repeats are not, in themselves, important as long as the level of viewing opportunity is high. Various indices of successful use of broadcasts are studied and it is shown that each of these indices can be valuable depending on the circumstances: (i) viewing/listening rate; (ii) helpfulness rating; and (iii) a new 'audience-attraction' index. An appendix gives these indices for all 108 courses surveyed in 1979-80. [Broadcasting] [StudentUsage] [Radio&Audio] [TV]

60 MEED, J. **The Use of Radio in the Open University Media Educational System 1971-74**

(In A. W. Bates and J. Robinson (eds.) Evaluating Educational Television and Radio OU Press 1977)

Full results of the survey of the Use of Radio at the OU is available in Paper 54 [Radio&Audio] but the summary findings are discussed here. Brief background information is given on the role of radio, and the advice sent to students on the use of programmes, but the main section describes the methodology of the survey and the various categories of teaching functions of radio which were extrapolated from the study. [StudentUsage] [Radio&Audio]

(3f) Protocol Analysis

P7 TAYLOR, J., O'SHEA, T., SCANLON, E., O'MALLEY, C. & SMITH, R. **Discourse and Harmony: Preliminary findings in a case-study of multimedia collaborative problem solving**

(submitted to *Journal of Educational Technology Systems* 1991)

At the Institute of Educational Technology at the Open University we are concerned to understand how to design effective computer-based support for collaborative learning where people are located at different physical sites and connected via various forms of technology. A collaborative project with Rank Xerox EuroPARC provided us with an opportunity to collect data on pairs of subjects working together on a physics problem using a distributed multi-media problem solving environment. Users communicated via screen-sharing and a camera-monitor device called a "video tunnel". This paper describes a methodology for analysing complex problem solving interaction between subjects (video-taped protocols), and provides preliminary evidence to support the essential role of visibility of one's partner through a video link for successful co-operative work to take place. [Comp/CommsTech]

3g Content Analysis

13 **SKELLINGTON, R.** **Content Analysis and Educational Media**

(Internal paper circulated by the author as part of his CNAA BA Degree in Social Science, 1971)

A long term aim of the research described in this paper is to enable course teams to apply a set of techniques for analysing their subject material before the actual programme/broadcast/text is produced, and then using this analysis to decide on the most appropriate medium for teaching the subject material. The method described here is based on the concept of content analysis, and elaborates the work of Trenaman in the area of educational media.

(4) INVESTIGATING LEARNING FROM MEDIA

275 **BATES, A. W.** **An Outline of Research into Undergraduate Learning & the Implications for Teaching**

(Report for the Fellowship of Engineering, 1987)

This paper was prepared as a contribution towards a larger report on strategies for teaching and learning in the field of engineering, carried out by John Sparkes. It examines the relationship between the nature of subject material and student learning, briefly summarises three main theoretical approaches to learning, summarises some research into undergraduate teaching, and looks at the learning and teaching implications of television and computer-

based learning. The paper is not meant to be a comprehensive treatment of these topics, but is a background paper for wider study.

129 **BATES, A. W.** **An Outline Theoretical Framework for a Study of Learning from Television**

(Prepared as a bid to SSRC 1979)

This paper attempts to set out a theoretical framework for understanding how people learn through television. The first part of the framework sets out the organisational factors which appear to influence learning from television. The second part looks at the different processes of coding information and meaning which are found in different media, and argues the need to study how learners discriminate between, absorb and transform these coded meanings. [TV]

167 **BATES, A. W.** **Towards a Better Theoretical Framework for Studying Learning from Educational Television**

(*Instructional Science*, 9, 1980)

Drawing in particular on Open University experience, this paper attempts to set out a theoretical framework for understanding how people learn through television. The first part of the framework sets out the organisational factors which appear to influence learning from television. The second part looks at the different processes of coding information and meaning which are found in different media, and argues the need to study how learners discriminate between, absorb and transform these coded meanings. [TV]

199 **BATES, A. W.** **Research into Learning from Television: A Position Paper**

(Internal report 1982)

This paper was prepared for a meeting to discuss the possibility of a joint research proposal into learning from television. It suggests some priorities for research, what the main theoretical issues are, and what methods and resources might be needed to conduct the research. [TV]

216 **BLISS, J., GOATER, M. JONES, C., & BATES, A. W.** **Piaget's Theories and Some Possible Implications for Educational Television**

(*Journal of Educational Television*, Vol. 9 No.1 1983 - pp 33-46)

This article discusses the extent to which Piaget's theories of thinking and mental development might have relevance for the production of educational programmes. Joan Bliss summarises and discusses the main points of Piaget's theories, and Michael Goater and Christopher Jones provide their own critical analysis of the implication of those theories for television production. Tony Bates concludes that, while there are some major difficulties in making the jump from Piaget's more general theories to specific television practice, the exercise does raise some fundamental questions about the relationship between television and the development of thinking. [TV]

225 SALOMON, G. **Using Television as a Unique Teaching Resource for OU courses: Comments on some TV programmes designed for D102 and M101**

(Internal paper 1983 12 pages)

Considering the cost of TV programmes, the author suggests that it is reasonable to let them do what they do best - visually illustrate, dramatise, concretise and supplant dynamic images without which certain abstract concepts cannot be well understood. Focusing on three (relatively) unique potentialities of TV (illustration, dramatisation and supplantation) and using the programmes for D102 and M101 as examples, the author discusses the importance of helping the student to abstract out of visual information the particular messages which were intended. [StudentUsage] [Evaluation] [TV]

28 BATES, A. W. **Problems of Learning from Television at a Distance**

(Conference on *Frontiers in Education* London: Institute of Electrical Engineers, 1974 6 pages)

Television at the Open University is used in a planned way with other media such as correspondence texts. This paper discusses how research at the University is used to identify and suggest solutions to a number of problems related to its usage, and in particular how a study of the nature and function of broadcasts allows us to test assumptions about the way students react to them and to suggest possible ways of improving their value. [Broadcasting] [StudentUsage] [TV]

229 LAURILLARD, D. **The Phenomena of Learning from Television**

(1983 28 pages + appendices)

This paper is a report of a research study on how students learn from television. The overall aim is to describe the process in terms of the

dominant factors and the relationships between them. Broadly this means attempting to relate programme design to learning process and learning outcome. Emphasising the propaedeutic nature of this research, the author investigates why many students fail to (a) understand the main point(s) of a television programme and (b) understand key sequences, and integrate those key sequences with the main point(s). This is achieved by contrasting the kinds of structure which students abstract from a programme with those provided by the producer and academic who made the programme. The author concludes that the total amount of time in a programme devoted to the main point(s) together with their evidence or exemplification is an important factor in discriminating between programmes that are highly successful at communicating their main points, and those that are less so, and that individual student learning characteristics do not appear to account for students' misunderstanding or misinterpretation of a programme. [TV]

CITE24 **LAURILLARD, D.** **The Different Forms of Learning in Psychology and Education**

(in J. Richardson, M. Eysenck and D. Warren Piper (eds.) Student Learning: Research in Education and Cognitive Psychology, SRHE & OUP 1987)

In this paper the author argues that there are fundamental differences in the forms of learning addressed by cognitive psychologists and educationalists. The argument focuses on two aspects: the nature of the phenomena described and the nature of the environments being learned. By developing the notion of 'precepts' (knowledge of the theoretical world) and contrasting it with the notion of percepts (knowledge of the physical world), the author discusses the ways in which psychology fails to address issues of concern in the field of education.

P3 **LAURILLARD, D.** **Mediating the Message: Programme Design and Students' Understanding**

(to be published in *Instructional Science* 1991)

The research reported aims to describe some aspects of how students learn from television programmes. It was based on observation, interview and test data from five groups of 20-30 Open University students, each watching a social science television programme as part of their course. A qualitative analysis of students' summaries of the programmes showed that only half achieved the intended learning outcomes. A further analysis of the students' responses to key extracts showed that this is more likely to be because of programme structure than because of presentational quality. The research design and results are related to similar studies on students learning from text, and contrasted with the methodology adopted in other studies of the effects of educational television. [TV] [StudentUsage]

88 GALLAGHER, M. **Audio-visual Media for Teaching and Training: The Contribution of Research**

(In J. Hegarty & S. Winter (eds.) Educating the Trainers, University of Keele, 1978)

A paper which argues that research into the use of audio-visual media for teaching purposes focuses most usefully on two ways of ensuring that students learn from what is intended to be learnt from a particular broadcast. This involves teaching visual and literacy skills, in particular developing in students a particular attitude to the media. Open University research has led to the formulation of five broad functional categories which appear to be particularly relevant to its teaching systems. The programmes transmitted on a course The Handicapped Person in Society are discussed to illustrate some of these functions and the problems students experience in relation to them. [StudentUsage]

23 GALLAGHER, M. **An Evaluation of the CT4 Scheme**

(Internal memo 1973 10 pages)

The CT4 scheme provides feedback from tutors about Open University courses. This report summarises an evaluation of the system. It discusses response rates, CT4 lay-out, various attitudes to the system and describes some of the actions taken ensuing from the feedback. The report suggests the system is a useful one, but recommends certain recommendations.

29 BATES, A. W. **The Role of the Tutor in Evaluating Distance Teaching**

(*Teaching at a Distance*, Vol. 1, No. 1, 1974)

The Open University teaching system provides only rare links between course designers and students, which means those responsible for the overall management of the system have no direct knowledge of how the teaching materials are used by its learners. Course tutors collectively can provide such information from their face-to-face or correspondence work with students. This paper argues the need for systematic evaluative research into Open University courses and discusses the role of the CT4 questionnaire whereby tutors can supply feedback information.

(5) RESEARCH SUPPORT

21 **MOSS, M.** **Concerning 'Content Analyses'**

(Internal memo 1973 6 pages)

A brief description of items and terms which might be of use to a researcher devising a schedule for the content analysis of an Open University television programme, but one which might be suitable for other purposes. The examples given are cursory illustrations of the method.

37 **MEED, J.** **Classification of Radio Broadcasts**

(Internal report 1974)

A small sample of radio programmes was studied by Meed and categorised in terms of format. He reports here that the majority of programmes could be described as straight lectures and presents a faculty breakdown of the use made of this and other identifiable formats. The paper ends with a discussion of the problems involved in attempting such a classification in an area where there is considerable overlap and ambiguity. [Radio&Audio]

104 **BROWN, D.H.** **Educational Radio: A Select Annotated Bibliography**

(Interim report, internal paper 1978)

A collection of papers from outside the Open University aimed at providing a source of background information for studying the use of radio programming and audio-cassettes in Open University courses. The bibliography contains notes, abstracts and some useful summaries of some of the items. [Radio&Audio]

182 **BROWN, D. H.** **Radio Research Project: A Select Bibliography of Relevant Materials (Final Report)**

(Internal paper 1981)

This collection of items is the result of a literature search conducted for the Audio-visual Media Research Group of the Institute of Educational Technology. It was intended that the bibliography should provide a source of background information for members of the research group during a study of the use of radio and audio-cassettes on Open University courses. For this reason items were only included if they appeared to have a fairly direct relevant to this study. Although there is now an extensive literature on the roles radio can play in development communication, only a small section of items on this topic were included, mainly those which provided a synthesis of current knowledge. [Radio&Audio]

PLANS AND ACTIVITIES OF THE RESEARCH GROUPS

SUB-SECTIONS:

(1) Audio-Visual Media Research Group
(2) Programme on Learner Use of Media

The Audio-Visual Media Research Group, led by Tony Bates, was disbanded in 1988. Each year the research of the AVMRG over the previous year was summarised and plans for the future laid out. The papers in the first section therefore provide an overview of the work of the group from 1971 to 1979, when the practice of writing these reports seems to have ceased.

The Programme on Learner Use of Media, led by Diana Laurillard, was created in July 1990, and we intend to revive the practice of publishing plans and reviews of our activities on a yearly basis.

(1) AVMRG

2 **BATES, A. W.** **Media Research**

(Internal memo 1971 2 pages)

This paper provides a record of the early plans for media research at the Open University and outlined four areas of major concern.

19 **BATES, A. W. & MOSS, M.** **Research into Open University Broadcasting 1971-72**

(Internal memo 1973)

A report which outlines the principal problem areas related to the use of broadcasting at the Open University identified during 1971-72 and which summarises the findings of a number of related research projects. [Broadcasting]

32 **BATES, A. W.** **A Proposed Programme of Evaluation**

(Internal memo 1974 4 pages)

A paper to the Evaluation Committee which sets out a procedure for the setting up of a full evaluation system for the Open University and outlines the broadcast programmes for proposed evaluation in 1974.

47 **BATES, A. W. & GALLAGHER, M.** **Summary of Activities of the AVMRG 1974**

(Internal paper 1974 1 page)

The major activities were a programme of evaluation, studies of replay facilities and of student use of broadcasting.

56 **BATES, A. W. & GALLAGHER, M.** **Summary of Activities of the AVMRG 1975**

(Internal paper 1975 2 pages)

An annual report on the current membership of the group and the main areas of work in 1975. These were: (i) student use of broadcasting - a 1200 student survey; (ii) programme evaluations; (iii) monitoring a video-cassette experiment in the South Region.

67 **BATES, A. W.** **Some Comments on the Preliminary Report on Institutional Research**

(Internal report 1976 29 pages)

A paper which argues for some radical changes in the system of organising funding and controlling of institutional research at the Open University. In particular it claims a need for a coherent and professionally based policy behind institutional research and proposes number of principles and structures. [ResearchMethod]

76 **BATES, A. W.** **Summary of the Activities of AVMRG 1976**

(Internal paper 1976 3 pages)

A brief overview of the year's activities, when the main work of the group was the evaluation of individual programmes and some developmental testing.

83 **BATES, A. W.** **Full Report on Activities of AVMRG 1976/77**

(Internal paper 1977 6 pages)

This paper briefly discusses each of the projects undertaken or in progress during the period 1976-77.

84 **BATES, A. W.** **The Long-term Role for the AVMRG**

(Internal paper 1977 5 pages)

A discussion paper suggesting the direction and area of future research work which the audio-visual group might undertake.

105 **GALLAGHER, M.** **Report on the Activities of AVMRG 1978**

(Internal paper 1979 10 pages)

An annual report summarising the major projects completed or underway by members of the audio-visual research group.

123 **BATES, A. W.** **Report on the Activities of AVMRG 1979**

(Internal paper 1979 118 pages)

An extensive review of the year's activities.

(2) PLUM

P2 **LAURILLARD, D.** **Programme on Learner Use of Media: Programme Outline 1990-1993**

(Internal Report 1990 5 pages)

The purpose of the Programme is to investigate and to develop an understanding of students' use of and learning from combinations of educational media (both current and anticipated) in distance education. This paper describes the aims and objectives of the Programme and an outline of activities for the coming three years.

OTHER INSTITUTIONS

SUB-SECTIONS:

(1) Consultancies on Policy, Organisation and Evaluation
(2) Use of AV Media in Other Institutions
(3) Reports on visits/workshops and conferences

There has been a steady demand for members of the group to provide consultancy in evaluation and planning for audio-visual media in other countries, particularly where new distance learning systems are being considered or set up. While reports of these activities will be of particular interest to those from outside the Open University concerned with developing distance learning systems, these reports also often provide interesting comparative insights into the assumptions and practices of the Open University itself. In other words, as well as acting as a source of inspiration for others, there is much the OU itself can learn from other systems, as a number of these reports indicate.

(1) CONSULTANCIES ON POLICY, ORGANISATION AND EVALUATION

95 **BATES, A. W.** **An Evaluation of a Communication Planning Framework**

(Report for UNESCO 1978 66 pages)

This report discusses a process evaluation of a planning framework set up by a UNESCO team; the framework suggested priorities and procedures appropriate to a Communications development project in Afghanistan. The evaluation covers procedures for co-operative working between national 'counterparts' and foreign specialists and looks at the various steps in seeking government approval of plans.
Confidential paper - restricted circulation

125 **BATES, A. W.** **A Master Plan for the Evaluation of the Radio Component of the Fifth Education Project for the Royal Government of Thailand**

(Paris UNESCO 1979)

The World Bank is supporting a major development of educational radio in Thailand between 1980 and 1986, including the building of a full national radio network devoted entirely to educational use, and the building of a new educational radio production centre. The report draws up an evaluation plan for this scheme, on behalf of the Ministry of Education, Thailand. The report places heavy emphasis on formative evaluation, in particular the monitoring and testing of in-school programmes, and on the need to base summative evaluation on the accumulation and supplementation of formative evaluation findings.

127 GALLAGHER, M. **The Organisation and Evaluation of the VCR Pilot Project of the Educational Media Service, Malaysia**

(London British Council 1978 28 pages)

This is a report of a three week visit to Malaysia to provide advice on the evaluation and organisation of a pilot project which provides a selected sample of primary and secondary schools with video-cassette recorders for playing back (and sometimes recording) educational television programmes.

173 BATES, A. W. **Pilot Project on Communication Technology for Education in the Philippines: A Framework for an Internal Evaluation of the Process of Management and Operation of the Project**

(Paris UNESCO 1981 26 pages)

This pilot educational radio project aimed primarily at teaching Philippino directly to elementary school pupils, and providing in-service teacher education courses in the same remote areas, was planned to come to an end in 1981. Although there are extensive formative and summative evaluation reports on this project, these did not provide an analysis of the management and operational features which influenced the effectiveness of the project. This report advises on the preparation of a document which would record such experience, including a proposed method of analysis which would allow the costs to be calculated for several options for continuing the project from its current base.

235 HISLOP, D. W. & POWELL, N. **A Study of the UK as a Source of Broadcasting Technology**

(Paris: UNESCO, 1984 57 pages)

This study of the UK broadcasting technology transfer system provides a description of the characteristics and activities of each element in the technology transfer system, using examples of transfer where possible, and

discussing the pattern of their interactions, and the implications for the third world. [Broadcasting]

239 **BATES, A. W.** **New Communications Technology and Distance Education: Implications for Commonwealth Countries of the South**

(Prepared for the Commonwealth Secretariat, 1984)

Selection of media has suddenly become a vital issue for distance teaching institutions wishing to exploit new technologies. Unfortunately, the advantages and disadvantages of these technologies are not always readily apparent. In this paper the author reviews the technical possibilities of the newer media, looking at the critical aspects of costs and necessary infrastructures, and raising questions about the social and educational implications of introducing such technology. In discussing each technology, he deals with the main factors which influence their suitability.

259 **BATES, A. W.** **A Proposed Programme for Institutional Research and Evaluation**

(prepared for the Open Learning Institute and Knowledge Network, Vancouver, Canada, 1987)

Whilst the Open Learning Institute and Knowledge Network are relatively young, innovative organisations, now that they are relatively well established, there has been growing recognition that the two organisations might benefit from a planned approach to evaluation and research. This document is a main report and summary of recommendations prepared by the author during a three month consultancy in January 1987 in which he assesses the research and evaluation needs of OLI and KN, and advises on what steps might be taken to establish an active research and evaluation programme.

269-71 **BATES, A. W.** **Satellites for Commonwealth Education: Some Policy Issues**

(Executive Summary/Main Report/Case Studies [AUSSAT, Australia, Knowledge Network, Canada, INSAT, India, University of the South Pacific, University of the West Indies] London: Commonwealth Secretariat, 1987).

The Commonwealth Secretariat commissioned Educational Information Technology Associates to conduct a study on the educational use of satellites for the Commonwealth Secretariat's Education Programme. The study had the following aims: (i) To identify the policy issues that need to be addressed by ministries of education, universities and other educational bodies in developing Commonwealth countries with respect to the educational use of satellites, taking into account the needs of small states; (ii) to describe the regulatory issues on which either individual or collective government action may be appropriate; (iii) to review Commonwealth experience, so that this can guide policy on, inter alia, the particular educational purposes for which satellite links have proved useful, regulatory issues, costs and technical issues and (iv) to examine the possibility of access to databanks from remote locations through satellite communication. The study is part of a long term strategy to help commonwealth education systems to benefit from satellite technology. The study will provide background material for a meeting of specialists in 1987/88. The study was conducted between June and September, 1987. [Cable & Satellite]

CITE 123 **HAWKRIDGE, D., & CHEN C.** **Evaluating a World Bank Project: China's Television Universities**

(Paper prepared by the International Advisory Panel and the Chinese Review Commission, 1990)

China recently invested about $60 million from the Work Bank, plus at least that much from its own resources, in expanding and modernising its television universities. How well are these unique institutions serving China's changing needs? Has the World Bank project been a success? This paper is based on the evaluation report prepared by two panels, one Chinese, the other foreign, appointed to advise the State Education Commission. The television universities have almost completed a very large construction programme: new and refurbished buildings contain new foreign and Chinese-made equipment. Much staff training has been carried out. This paper shows that the television universities have succeeded in producing large numbers of graduates. It demonstrates the extent to which teaching quality has been enhanced and the range of courses increased. It identifies causes of apparent failure to improve management of the television universities' resources through providing computers. Finally, it discusses briefly the future of the television universities in China.

(2) USE OF AV MEDIA IN OTHER INSTITUTIONS

121 **BATES, A. W.** **The Use of Film and Television at Memorial University, St. John's, Newfoundland**

(Internal memo 1979 7 pages)

As well as having a conventional on-campus television facility, Memorial University also manages a channel on a local community cable system. In addition, the University's Extension Service provides film and video facilities for isolated communities in Newfoundland and Labrador. These facilities have sometimes been used to break the communication gap between government and the local communities. The report provides a description of those services provided by Memorial University.

178 **BATES, A. W.** **Trends in the Use of AV Media in Distance Education Systems Around the World**

(in J. Daniel et al. (eds) Athabasca: Learning at a Distance International Council for Distance Education 1982)

This paper, based partly on a study of 12 distance education systems throughout the world, argues that there is a move away from broadcasting while the range of new audio visual media available to such institutions is rapidly increasing. At the same time the potential of audio-visual media is still being underexploited by distance learning systems. Each new medium meets a different range of educational functions. Two consequences are the breaking down of professional boundaries and the increased need for training of academics and teaching staff in the use of AV media.

197 **BATES, A. W.** **Media and Distance Education in Canada**

(Internal report 1982)

This is a report on a three week visit to institutions in Canada to discuss and exchange information on the use of audio-visual media in distance education. Institutions visited were Concordia University, Montreal; TV Ontario, Toronto; University of Saskatchewan, Saskatoon, University of Regina; Open Learning Institute, Simon Fraser University and Knowledge Network, Vancouver. Discussions were also held with staff from Teleuniversite, Quebec; British Colombia Institute of Technology; and staff from the Ministries of Education in the provinces of Quebec, Ontario and Saskatchewan. Reports are given on the use of media for each of the institutions visited.

(3) REPORTS ON VISITS/WORKSHOPS/CONFERENCES

51 **BATES, A. W.** **Some Developments in Advanced Educational Technology in South-East Asia**

(Internal paper 1975 12 pages)

The author was invited by UNESCO to attend a workshop in the Philippines which was to prepare for a pre-investment study examining the possibility of introducing an advanced educational technology system for the Philippines, possibly making use of a communications satellite. The author also visited the Centre for Production and Training for Adult Educational Television (CEPTA), based in Singapore; the Centre for Educational Technology in the Ministry of Education, Bangkok, Thailand; and the Sout-East Asia Regional Headquarters of UNESCO, also in Bangkok. This paper is a report of these visits.

94 **BATES, A. W.** **Some Aspects of Educational Broadcasting in Sweden**

(Internal paper 1978 27 pages)

This is a report of a one week visit to Sweden where educational broadcasting has undergone a major re-organisation. The paper discusses the new internal organisation, looks at some of the programming being produced, and in particular looks at the work of the non-formal, adult educational sector. There are also descriptions of research activities both of Swedish Educational Radio, and of Sveriges Radio's Audience Research Department. The latter has produced a number of papers indicating the effect of broadcasting in increasing differences in informational gaps between social classes and presentational steps that can be taken to reduce this tendency. The paper also describes the rather slow developments in distance education in Swedish Higher Education.

96 **GALLAGHER, M.** **Issues Arising from the Evaluation of a Communication Planning Workshop**

(Report for UNESCO 1978 11 pages)

This report describes a number of practical difficulties which arose during a Workshop on Communication Planning held in Malaysia. Participants made a number of recommendations on the future running of such workshops covering such points as general structure and approach, the use of simulation exercises and presentations and strategies for achieving clarity.

166 **BATES, A. W.** **The Planning and Management of Audio-visual Media in Distance Learning Institutions**

(International Institute of Educational Planning 1980 94 pages)

Prepared as a result of a workshop organised in Paris by IIEP, this paper provides an analysis of various models of distance learning systems, surveys the main planning and management issues regarding audio-visual media in

12 selected institutions, and examines possible training and research implications. The paper deals with the planning and management issues associated with the choice of appropriate functions for audio-visual media, production and transmission of broadcasts, use of non-broadcast audio-visual media, costing methods and evaluation.

232 **BATES, A. W.** **Distance Education and Educational Television in British Colombia**

(Internal paper 1984 17 pages)

A report on a three month study leave visit.

246 **BATES, A. W.** **The Dutch Open University**

(Internal Report 1985 4 pages)

A report on a 2-day visit.

260 **BATES, A.W.** **Report on a visit to Athabasca University and Access - Alberta**

(Internal paper 1987 8 pages)

Report on the author's visit to Athabasca.

279 **BATES, A. W.** **Distance Education, Technology and Business Opportunities in Canada**

(Internal report 1988 6 pages)

This paper is a report by the author of a study leave visit to Canada.

297 **BATES, A. W.** **Diversity or Chaos in Canadian Distance Education? A View from Overseas**

(in R. Sweet, (ed.) Post-Secondary Distance Education in Canada, Athabasca University/Canadian Society for Studies in Education, 1989)

In this paper the author addresses the question of whether Canadian distance education, despite its many achievements, is adequately meeting the educational and training needs of the Canadian people.

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(1) AVMRG PAPERS

1	**BATES, A.W.**	**Exploring the Media** Internal paper 1970 [Multi-media&CD, ResearchMethod]
2	**BATES, A.W.**	**Media Research** Internal memo 1971 [Plans]
3	**BATES, A.W.**	**Evaluation of broadcasts and student assessment** Internal memo 1971 [Broadcasting]
4	**BATES, A.W.**	**Use of broadcasts in "parallel" to correspondence texts** Internal memo 1971 [Broadcasting, Multi-media&CD, TV, Radio&Audio]
5	**BATES, A.W.**	**Who needs broadcasting?** Internal memo 1971 [Broadcasting]
6	**BATES, A.W.**	**Evaluation of Broadcasting at the Open University** in K. Austwick and N. Harris, (eds.), Aspects of Educational Technology VI, London: Pitman 1973 [Broadcasting, ResearchMethod]
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13	SKELLINGTON, R.	**Content Analysis and Educational Media** Internal paper: part of BA Social Science degree, 1971 [ResearchMethod]
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CITE82	LAURILLARD, D.	**T102 CAL Numeracy: Formative Evaluation Report, July-August 1989.** Internal report 1989 [Comp/CommsTech]
CITE84	SAXTON, C.	**Home Computing Evaluation 1988: To Compute or Not to Compute** Internal report 1989 [Comp/CommsTech]
CITE87	WHALLEY, P.	**Models of hypertext structure and learning.** *Nato Advanced Research Conference on Hypertext and Learning*, Tubingen 1989 [Comp/CommsTech]
CITE91	KAYE, T., MASON, R., & HARASIM, L.	**Computer Conferencing in the Academic Environment** Based on a report for a committee considering introduction of a distributed computer conferencing system for use in post-secondary education institutions in British Columbia, Canada 1989 [Comp/CommsTech]
CITE95	DALE, E., & KIRKUP, G.	**Home Computing Evaluation. T102 Mid-Year Report on Students' Survey July/August 1989** Internal report 1989 [Comp/CommsTech]
CITE98	KAYE, T.	**Computer Conferencing and Mass Distance Education (1)** in M. Waggoner (ed.) Empowering Networks: Using computer conferencing in education 1990 [Comp/CommsTech]
CITE99	MASON, R.	**Home Computing Evaluation. Use of CoSy on DT200, 1989** Internal report 1990 [Comp/CommsTech]

CITE107	KIRKUP, G., & DALE, E.	**T102 Tutors' Use of the Home Computing Facility 1989** Internal report 1990 [Comp/CommsTech]
CITE110	JONES, A., & SINGER, R.	**Report of the use of Home Computing on M353** Internal report 1990 [Comp/CommsTech]
CITE123	HAWKRIDGE, D., & CHEN CIA-ERH	**Evaluating a World Bank Project: China's Television Universities** Paper prepared by the International Advisory Panel and the Chinese Review Commission 1990 [OtherInstitutions]

5. PUBLICATIONS OF THE PROGRAMME ON LEARNER USE OF MEDIA

P1	TAYLOR, J. A.	**The Programme on Learner Use of Media Annotated Bibliography** Internal document 1991 [YOU ARE READING IT]
P2	LAURILLARD, D. et al.	**Programme on Learner Use of Media: Programme Outline 1990-1993** Internal report 1990 [Plans]
P3	LAURILLARD, D.	**Mediating the Message: Programme Design and Students' Understanding** to be published in *Instructional Science 1991* [TV, ResearchMethod, StudentUsage]
P4	CROOKS, B.	**The Potential of Non-Broadcast Television Technologies for Learning and the Implications for Educational Television Design and Research** Tel-Aviv Seminar on *ETV Broadcasting Research in the Nineties* sponsored by the European Broadcasting Union, Tel Aviv, Israel, March 1990 [Multi-media&CD, Video, Broadcasting, InteractiveVideo]
P5	CROOKS, B.	**Review of Re-Introduction of Broadcast Loan Scheme** BAVSC/30/10 1990 [Broadcasting, Video]
P6	CROOKS, B.	**Use of Video-cassettes: Issues of access, relative roles of broadcast and video-cassette programmes and raising awareness of new possibilities** BAVSC/32/2 1990 [Video, Broadcasting]
P7	TAYLOR, J. A. et al.	**Discourse and Harmony: Preliminary findings in a case-study of multimedia collaborative problem solving** Submitted to *Educational Technology Systems* 1991 [ResearchMethod, Comp/CommsTech]

P8	BOYLE, G.	**Briefing Paper on Developments in Direct Broadcasting by Satellite in Europe** Paper for BAVSC June 1990 [Cable&Satellite]
P9	WHALLEY, P.	**Models of Hypertext Structure and Learning** in D. Jonassen & H. Mandl (eds.) Designing Hypermedia for Learning, Springer-Verlag 1990 [Comp/CommsTech]
P10	DURBRIDGE, N.	**Considerations and Recommendations for Textual Design in Arts Faculty Courses** Internal memos and reports 1990 [Text]
P11	WHALLEY, P.	**An Alternative Rhetoric for Hypertext - a return to linearity** Internal paper 1991 [Comp/CommsTech]

(6) AUDIO-VISUAL PACKS AVAILABLE

AVPACK1 VARIOUS AUTHORS **Learning from Television: A Study Package (1981)**

The reasons behind the development of these materials for use by students and staff of the Open University are outlined in paper 119. The package consists of a handbook together with supporting video-cassette containing extracts from Open University television programmes. These materials illustrate the different responses which the varied programme formats demand from users. [Broadcasting, TV, StudentUsage]

AVPACK2 DURBRIDGE, N. **Designing Audio-Cassettes - A Self-Instructional Package**

Nicola Durbridge has prepared an audio-vision package which illustrates a range of ways the medium has been used on Open University courses. The commentary draws attention to the ways each extract exploits various characteristics of the medium and outlines the kinds of planning and design decisions involved in audio-cassette making. A few of these are still available from IET. A new pack is under development. [Radio&Audio, Multi-media&CD]

AVPACK3 VARIOUS AUTHORS **A Multi-Media Package on the Use of Television in Specific Faculty Areas (1977-79)**

The AVMRG has produced a set of multi-media packages providing examples of specific educational uses of television in various subject areas. These consist of a set of extracts on video tape from OU programmes with a printed handbook analysing the abstracts, and providing activities. The handbooks produced are as follows:

BATES, A. W.	**Using Television in Mathematics (Tape and handbook)**
BROWN, D.	**Using Television in Faculty of Arts (Tape and handbook)**
DURBRIDGE, N.	**Using Television in Social Science and Educational Studies (Tape and handbook)**

GRUNDIN, H. **Using Television in Science and Technology (Tape missing - handbook only)**

The PLUM group will be constructing a new AV Pack during 1991. For progress reports contact Josie Taylor (5965). [TV]

AVPACK4 TAYLOR, J. A. **Using Television in Distance Learning**

This video pack has evolved around Tony Bates' paper (245). Unfortunately, although the video-tape refers to accompanying notes, these notes were never written. Josie Taylor has compiled instead a video-pack consisting of an extended version of Paper No. 245, the video, and some relevant IET research papers. This pack is an interim version, as the PLUM group will be developing a new AV pack on television during 1991. [TV]

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